DISSERTATION ON

" A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME REGARDING PREVENTION OF SELECTED COMPLICATIONS AMONG IMMOBILIZED ORTHOPAEDIC PATIENTS IN RAJIV GANDHI GOVERNMENT GENERAL HOSPITAL, CHENNAI".

M. Sc (NURSING) DEGREE EXAMINATION
BRANCH –I MEDICAL SURGICAL NURSING

COLLEGE OF NURSING
MADRAS MEDICAL COLLEGE, CHENNAI – 03.

A dissertation submitted to

THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY,
CHENNAI –600032.

In partial fulfillment of requirements for the award of degree of

MASTER OF SCIENCE IN NURSING

OCTOBER 2017

" A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME REGARDING PREVENTION OF SELECTED COMPLICATIONS AMONG IMMOBILIZED ORTHOPAEDIC PATIENTS IN RAJIV GANDHI GOVERNMENT GENERAL HOSPITAL, CHENNAI."

Examination MSc (Nursing) Degree Examination

Examination date and time	_____
Branch and Course	I-Medical Surgical Nursing
Register No	_____
Institution	MADRAS MEDICAL COLLEGE, COLLEGE OF NURSING.

Sd:_____ Sd:_____

Internal Examiner External Examiner

Date: Date:

TAMILNADU DR.M.G.R MEDICAL UNIVERSITY,CHENNAI-32

CERTIFICATE

This is to certify that this dissertation titled "**A study to evaluate the effectiveness of structured teaching programme regarding prevention of selected complications among immobilized orthopaedic patients in Rajiv Gandhi Government General Hospital, Chennai**", is a bonafide work done by **Mrs.K. Jeya Chandra, II year M.Sc Nursing student**, College of Nursing, Madras Medical College, Chennai-03, submitted to the **Tamilnadu DR.M.G.R. Medical University, Chennai** in partial fulfillment of the requirements for the award of degree of **Master of Science in Nursing, Branch I Medical Surgical Nursing,** under our guidance and supervision during the academic period from 2015 – 2017.

Dr. V.Kumari, M.Sc(N), Ph.D.,
Principal ,
College of Nursing,
Madras Medical College,
Chennai-03.

Dr.R.NarayanaBabu, M.D., DCH.,
Dean,
Madras Medical College,
Chennai-03.

DISSERTATION ON

"A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME REGARDING PREVENTION OF SELECTED COMPLICATIONS AMONG IMMOBILIZED ORTHOPAEDIC PATIENTS IN RAJIV GANDHI GOVERNMENT GENERALHOSPITAL, CHENNAI" .

Approved by Dissertation Committee on **12/07/2016**

NURSING RESEARCH GUIDE _____

Dr.V. Kumari, M.Sc.,(N),Ph.D.,
Principal,
College of Nursing,
Madras Medical College,
Chennai-600 003.

CLINICAL SPECIALITY GUIDE

_____

Mrs. Dominic Arockia Mary , M.Sc.,(N).,
Reader and Head of the Department,
Department of Medical & Surgical Nursing,
College of Nursing,
Madras Medical College,
Chennai-600 003.

MEDICAL GUIDE

_____

Prof.N.Deen M. Ismail, M.S(Orth).,D.Ortho.,
Institute of Orthopaedics& Traumatology,
Madras Medical College& RGGGH,
Chennai-600 003.

A dissertation submitted to

THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY

CHENNAI-600 032.

In partial fulfillment of the requirement for the award of degree of

MASTER OF SCIENCE IN NURSING

OCTOBER 2017

ACKNOWLEDGEMENT

" It is glory of God to conceal things, but the glory of king is to search thing out".

Proverb25:2

God delight in concealing things scientist delight in discovering things for bestowing his blessings upon me leading and guiding me throughout this period of research.

Nothing concrete can be achieved without an optimal inspiration during the course of work. There are several hands and hearts behind this work, I would like to express my gratitude. Great and mighty is our Lord our God, to whom all thanks and praise for all wisdom, knowledge, guidance and strength throughout this work.

I wish to express my sincere thanks to **Dr. R.Narayana Babu, MD,DCH.**, Dean, Madras Medical College, Chennai and **Prof.Sudha Seshayyan, MD., Vice Principal,** MMC, and the **Institutional Ethics Committee, MMC,**for providing necessary facilities and extending support to conduct this study.

I express my heartfelt thanks to **Dr.V.Kumari, M.Sc (N)., Ph.D.,** Principal, College of Nursing, Madras Medical College, Chennai. The success of my work is created to her excellent guidance, support, constant encouragement and valuable suggestions helped in the fruitful outcome of this study.

My immense pleasure to express my sincere gratitude to **Mrs.Dominic Arockia Mary, M.Sc(N), HOD, Vice Principal (I/C),** College of Nursing, Madras Medical College, Chennai, for her guidance in pursuing the study.

I express my thanks to **Mrs.P.K.Shanthi, M.Sc(N)**, Head of the department in Paediatric Nursing, College of Nursing, MMC, for her continuous encouragement during her presence in our college.

I express my heartfelt thanks to my esteemed teacher **Mrs.A.Thahira Begum M.Sc(N), M.Phil, M.B.A., Reader, Head of the department, College of Nursing, Madras Medical College,** for her continuous encouragement and constant support during her presence in our college.

I would also like to thank **Mrs.V.K.R.Periyarselvi, M.Sc.,(N), Lecturer**, **Mrs.C.S.V.Uma Lakshmi M.Sc., (N)** Lecturer, and **Mr.N.Murugananthan, M.Sc.,(N),** Lecturer, college of Nursing, Madras Medical College, Chennai, for their valuable support and assistance during this study.

It's my great pleasure and privilege to express my deep sense of gratitude to all the faculty members of College of Nursing, Madras Medical College, Chennai, for the support and assistance given by them in all possible manners to complete this study.

I render my deep sense of gratitude to **Prof.N.Deen M.Ismail, M.S(Orth)., D.Ortho.,** Director, Institute of orthopeadics and traumatology, and **Dr.Saravanan, Asst. Professor of Orthopaedic Surgery,** Institute of orthopaedics and traumatology for helping me in constructing the tools for the study and completing my study in a successful manner.

I am extremely thankful to **Mrs.S.Vengatasan M.SC.,M.Phil, Deputy Director (Statistics),** DME, Chennai, for suggestion and guidance in statistical analysis.

It is my immense pleasure and privilege to express my gratitude to **Mrs.J.Jaslina Gnana Rani M.Sc (N)** Reader, and **Mrs.S.Kanchana, Reader,** Medical Surgical Nursing, Apollo college of Nursing, Vanagaram, for validating this tool.

I extend my thanks to **Mr.Ravi, M.A, M.L.I.Sc.,** Librarian, College of Nursing, Madras Medical College, Chennai for his co-operation and assistance which built the sound knowledge for this study.

I express my heartfelt and deep thanks to my husband **Mr.T.R.Lenin** for his loving support, earnest prayers & he is the man behind my success.

I extend my thanks to my parents father **Mr.S.Kuzhanthai Vel**, and to my mother **Mrs.C.Baby** they are great motivator and my special and deep thanks to my mother in law **Mrs.S.Leela Raju** for her loving support, earnest prayer, patience & encouragement.

I would like to thank my brother **Mr.K.Silvance** and my sisters **Mrs.K.Nirmala Augustin** and **R.Latha Jose** also I thank my brother in law **Mr.T.R.Halin** for their loving moral support. I express my deep sense of gratitude to all my friends particularly my department colleagues and my well-wishers who supported me.

I would like to express her deepest gratitude to all the **staff members** who worked in the **orthopaedic wards**, specially the patients who had enthusiastically participated in this study, without whom it was not possible. I owe a deep sense of gratitude to whoever concerned to the accomplishment of this study.

I thank **Mr. Syed Hussain, B.Sc(Com),** and **Mr.Ramesh, B.A.,** for their help in DTP printing, binding and completing the dissertation successfully.

ABSTRACT

"FOCUS ON THE ABILITY AND NOT ON THE DISABILITY"

Study title

"A study to evaluate the effectiveness of structured teaching programme regarding prevention of selected complications among immobilized orthopaedic patients in Rajiv Gandhi Government General Hospital, Chennai".

Lengthy periods of immobilization are emotionally stressful for patients. When the complications due to immobilization are prevented it helps an individual to be physically, emotionally, and psychologically sound. These complications can be prevented through simple basic patient care like skincare, active- passive exercises, changing position and deep breathing exercises. Nurses have a key role in prevention of these complications by educating the patients.

Need for the study

The investigator happened to see of 60% patients in the orthopaedic wards were long term immobilized and they developed complications like pressure sores, constipation and hypostatic pneumonia. Based on this the investigator strongly felt the need to explore the knowledge of clients with orthopaedic condition in preventing selected complications, by enhancing their knowledge through structured teaching programme and improving the client's quality of life. The selected complications for the study purpose were pressure sore, hypostatic pneumonia and constipation.

Objectives

- To assess the knowledge regarding prevention of selected complications among immobilized orthopaedic patients.
- To evaluate the effectiveness of the structured teaching programme regarding prevention of selected complications among immobilized orthopaedic patients.

- To determine the association between post-test knowledge score and selected demographic variables.

Key words: Hypostatic pneumonia, constipation, pressure ulcer,STP. Immobilization, orthopaedic patients.

Research methodology

Research approach - Quantitative approach

Duration of the study- Four weeks (from 21/11/2016 to 18/12/2016.)

Study setting - The study was conducted in the orthopaedic wards of Rajiv Gandhi Government General hospital, Chennai-03.

Research design - Pre experimental one group pre-test and post-test design.

Study population - Immobilized orthopaedic clients.

Sample size - Sixty immobilized orthopaedic patients

Sampling technique - Convenient sampling

Data collection procedure

The study will be undertaken after approval from institutional ethics committee. Those who are willing to participate were enrolled and informed and their consent will be obtained. The immobilized orthopaedic patients who fulfill the inclusion criteria are selected in the groups. Approximately three to five samples were selected every day and pre-test questionnaire was given to them and collected after its completion.STP was given to the patients for 45 minutes, post-test was conducted, after 1 week to assess the knowledge of immobilized orthopaedic patients regarding prevention of selected complications.

Data analysis

The data were tabulated and analyzed using descriptive statistics like mean, standard deviation, frequency distribution and percentage. Inferential statistics like paired t- test, Mc-Nemar test and chi-square test were also used. The collected data was presented in the form of tables and figures.

Results

The findings of the study revealed that the Structured Teaching Programme had improved the knowledge of immobilized orthopaedic patients regarding prevention of selected complications with paired t-test (p value is 0.001). There is statistical significance in knowledge attainment on prevention of selected complications,which shows the effectiveness of the Structured Teaching Programme.

Discussion

Hypothesis was proved by the great statistically significance occurs, after Structured Teaching Programme. The chi square test shows that there is association between the post-test level of knowledge with selected variables among immobilized orthopaedic patients.

Recommendations

- An experimental study can be undertaken with a control group for effective comparison of the result.
- A comparative study can be conducted between rural and urban settings or between rich and poor socio economic status people or between men and woman.

Conclusion

The results of the study shows that Structured Teaching Programme was effective in improving knowledge of immobilized orthopaedic patients regarding prevention of selected complications.

INDEX

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

S.NO	TITLE
1	Certificate approval by Institutional Ethics Committee
2	Certificate of content validity
3	Letter seeking permission for conducting the study
4	Structured teaching module ✓ Tamil ✓ English
5	Study tool-Structured Interview Schedule ✓ Tamil ✓ English
6	Informed consent form ✓ Tamil ✓ English
7	English editing certificate
8	Tamil editing certificate
9	Coding sheet
10	A/V- aids /Flash cards

ABBREVIATIONS

TKA	Total Knee Arthroplasty
THA	Total Hip Arthroplasty
STP	Structured Teaching Programme
RTA	Road Traffic Accidents
TTA	Train Traffic Accidents
DVT	Deep Vein Thrombosis
MLLR	Multi Level Logistic Regression
RR	Relative Risk
MDG	Millennium Development Goals
ISS	Injury Severity Score
GCS	Glasgow Coma Scale
LOS	Length Of Stay
MVA	Motor Vehicle Accident
NPUAP	National Pressure Ulcer Advisory Panel
FIG	Figure
NO	Number
RGGGH	Rajiv Gandhi Government General Hospital
CI	Confidence Interval
SD	Standard Deviation
P	Probability

INTRODUCTION

CHAPTER-I

INTRODUCTION

"An ounce of prevention is worth a pound of cure"

"Nancy M Valentine"

Healthcare continues to pose a major challenge for developing countries. The successes of individual health programmes remain overshadowed by the problems these nations face in the 21st century. Furthermore, as the UN Millennium Development Goals (MDGs) recognize, health is inextricably linked with development of a failing economy cannot provide adequate healthcare, and a sick population, unable to work productively, cannot boost the economy.[1]

Health is a blessing. Physically and mentally a healthy person can be more productive and enjoy all aspects of life. In order to promote health, body needs to function optimally. For this,the musculoskeletal system plays an important role.[2]

Musculoskeletal complaints are the second most common reason for consulting a doctor and constitute, in most countries, up to 10–20% of primary care consultations. In the Ontario Health Survey, musculoskeletal complaints were the reason for almost 20% of all health care utilization. They were the most expensive disease category in the Swedish cost of illness study, representing 22.6% of the total cost of illness; the greatest costs were indirect costs related to morbidity and disability. The total direct cost for use of health services that results from musculoskeletal conditions was 0.7% of the gross national product in the Netherlands, 1.0% in Canada, and 1.2% in the USA. The indirect costs of musculoskeletal conditions (loss of productivity and wages) were much greater than the direct costs, corresponding to 2.4% and 1.3% of the gross national products of Canada and the USA, respectively.[3]

To maintain optimal physical mobility, the musculoskeletal and nervous system of the body must be intact and functioning. Injury and disease can lead to numerous alterations in musculoskeletal function. Injuries are the predictable consequence of people's action within a risky environment.[3] Direct trauma to the musculoskeletal system leads a client to a state of immobilization. In the fast moving world of today, the majority of physical ailments are caused by trauma. The rapidly advancing industrialization, rising transportation, strenuous sports, challenging adventures, acts of violence and home accidents have been the cause of tragic injuries to thousands of people every year.[4]

Global scenario

The most problem arises from motor vehicle accidents. Road traffic accidents kill more than one million people each year and injure millions more across the globe. Road deaths and injuries are increasing at a faster place in Asia than other regions of the world wide and an estimated 1,275,000 persons are grievously injured on the road every year.[5]

Immobility is defined as unable to independently move or change positions, or movement is restricted for medical reasons. (Potter and Perry, 2008). Immobility refers to the inability to move about freely Prolonged immobility has multiple effects on the major systems of the body and can result in a negative physiologic response in hospitalized patients on bed rest (Pashikanti&Von.Ah,2012). Orthopaedic patients will have impairment in mobility results from prescribed restriction of movement in the form of bed rest, physical restriction of movement or impairment of motor skeletal function. The orthopaedic patients have immobility imposed on them either due to their condition or indirectly due to treatment like cast, tractions, splints, implants and internal fixators (Shehata&Wehwida,2008).In orthopaedic patients the treatment of choice following surgery or injury are varying in rest & motion. The effect of immobilization leads to many complications related to different systems in our body. The patients with acute medical condition maybe

hospitalised for few days but patients with orthopaedic condition may be for many days.. In a classic study Deitric and others found that even young healthy man put in bed rest had physiological problem. It is generally easier to prevent the complications than to treat or cure them. Patients play a vital role in preventing the complications of immobilization. If the Patients are knowledgeable about the potential changes of immobility and diligent in implementing the preventive interventions, they will avoid lots of discomfort for themselves (Kurian, 2005).[6]

Some of the major complications of immobilization are pressure ulcers, DVT, hypostatic pneumonia, constipation and contracture. Early recognition of common complications in patients after orthopedic trauma is essential to avoid long term problems. Complications developed due to prolonged bed rest and immobilization is much easier to prevent than to treat.

National scenario

In INDIA, main complications of immobility are joint stiffness 77.5%, pressure sore 30%, constipation 25%, infection(hypostatic pneumonia) 22.5%, decrease sensation 20%, paralysis 2.5%, leg discrepancy 2.5%, cast syndrome 2.5%, mal-united fraction 2.5%, and swelling 5%. In INDIA, it is estimated that approximately from 1.2 million people are suffering from bedsores it is reported that there are 60,000 deaths annually from complications arising from bedsores [7].

Institutional scenario.

S.NO	YEAR	TOTAL NUMBER OF ADMISSIONS
1.	2007	5496
2.	2012	4832
3.	2015	6010
4.	2016	6700

TABLE1.1-Institutional scenario: Orthopaedic wards at RGGGH, Chennai.

Pressure ulcers remain one of the most neglected aspects of health-care provision in India and identifying their associated risk factors at an early stage may go a long way in preventing their occurrence. Risk factors for the development of pressure ulcers include spinal cord injury, advanced age, and cognitive impairment. Several grading scales have been developed for the assessment of pressure ulcer. Frequent patient turning, close monitoring, and frequent skin checks are important factors in the prevention of pressure ulcer.[8]

Constipation is a pervasive problem is hospitalized patients. In an orthopaedic population, the problem is compounded by issued of forced immobility, pain with the movement and the use of opiods and other medications to control pain. Constipation is a universal health problem with statistics that vary among different population from 20 to 50% (Kacmaz&Kasikci,2007). DeSouza (2002) estimated that 40% of the adult orthopaedic population experiences constipation.[9]

Early mobilization is the trend now days.Specialized education in case of orthopaedic patients includes an understanding of the common complications for which patients require monitoring. Prevention or early detection of symptoms related to these dysfunction is the key for the care of orthopaedic patients. [10]

1.1.Need for the study

A mobile person generally turns approximately once every 10-12 minutes while sleeping. This action provides for healthy blood circulation, stimulation of body organs and movement of body fluids. When a person becomes temporarily or permanently immobilized, however, the blood supply to that part of the body that is under pressure is restricted. If that pressure is not regularly relieved, and the blood supply restored, the affected tissue dies and sloughs off and a pressure or decubitus ulcer (i.e. bedsore) begins to form. Decubitus ulcers are of major concern to the sufferers, their caregivers, and the medical community. The scale of the problem is immense. It is estimated that approximately 1.2 million people are suffering from bedsores at any one time in India alone and almost 70% of sufferers are over 65 years. It is reported that there are 60,000 deaths annually from complications arising from bedsores.[11]

Constipation is one of the most common gastrointestinal symptoms that orthopaedic patients may experience during the recovery phase. Constipation can have a significant impact on patient's quality of life and health care expenditures. The estimated incidence of constipation is approximately 2 to 28% of Indians. Orthopaedic patients are especially at risk for developing constipation of several reasons. This particular patient population often receives oral or intravenous opioids for pain management and constipation is a well-known adverse effect of such agents. Some of these patients may also suffer from depression a risk factor for constipation as a result of their debilitating illness.[12]

Pressure sores can develop in unexpected place assess the patient thoroughly while determining pressure sore risk. As a nurse we have a greater role in preventing pressure ulcer when the patient is hospitalized by giving positioning, checking their nutritional, maintaining good skin care and cleaning. Therefore in this case patient's part is very essential one and the nurse's responsibility is giving health education to patients and his family

members. Research indicates that care giving is associated with biomarkers of chronic stress. Therefore the investigator recognized the significance of giving a planned teaching programme for patients to get adequate knowledge on prevention of pressure ulcer.[13]

Hypostatic pneumoniaoccurs when normal bronchial secretions accumulate in the lungs due to immobilization. Pneumonia is infection and consolidation of the lung tissue and it showing some symptoms like dyspnoea, cyanosis, increased temperature and pulse and productive cough. We can prevent this condition bychanging the patient position from side to side once in 2 hours to allow each lung to expand on inspiration and allow chest secretions to drain. Encourage deep breathing, coughing and expectorating and chest physiotherapy.[14]

The main purpose of this study is to prevent complications arising out of immobilization by educating the patient and the family. The researcher chose orthopaedic, as area of speciality to conduct the study because orthopaedic patients are more necessitated and vulnerable to immobilization due to health and disease condition and long-term immobilization is most common among orthopaedic patients. Most of the complications can be avoided by educating them about the selected complications and clients, recovery would be easy without any complications.[13]Based on the available literature regarding the prevention of complications the researcher revealed that orthopedic clients were unaware about the potential complications of immobilization.[15]

The investigator happened to see of 60% patients in the orthopedic wards were long term immobilized and they developed complications like pressure sores, constipation and hypostatic pneumonia. Based on this the investigator strongly felt the need to explore the knowledge of clients with orthopaedic condition in preventing selected complications, by enhancing their knowledge through structured teaching programme and improving the client's

quality of life. The selected complications for the study purpose were pressure sore, hypostatic pneumonia and constipation.[16]

1.2 Statement of the problem

"A study to evaluate the effectiveness of structured teaching programme regarding prevention of selected complications among immobilized orthopaedic patients in Rajiv Gandhi Government General Hospital, Chennai"

1.3 Objectives

- To assess the knowledge regarding prevention of selected complications among immobilized orthopaedic patients.
- To evaluate the effectiveness of the structured teaching programme regarding prevention of selected complications among immobilized orthopedic patients.
- To determine the association between post-test knowledge score and selected demographic variables.

1.4 Operational definition

Effectiveness

Refers to gain in knowledge on prevention of complications among immobilized orthopaedic patients determined by significant difference between pre and post-test knowledge.

Structured teaching programme

Refers to the systematically developed instructional method designed for patients, to provide information regarding prevention of complications.

Knowledge

Refers to the response given by patients regarding prevention of complication.

Selected complications

Refers to some of the complications among immobilized orthopaedic patients, such as Pressure sores, Hypostatic pneumonia, and constipation.

Immobilized orthopedic patients

Refers to patients affected by injury and unable to move about freely.

1.5.Assumption

- The pressure sores, hypostatic pneumonia, constipation are common among immobilized patient.
- Structure teaching may help to gain knowledge in the prevention of complications.
- Structured teaching programme has no time limitation and does not have any adverse effects.

1.6 Research hypothesis

At P level ≤0.001

H_1 : There will be significant increase in knowledge regarding prevention of selected complications among immobilized orthopaedic patients subjected to STP.

H_2: There will be significant association between post-test knowledge scores and selected demographic variables.

1.7 Delimitations of the study

- The study is limited to only immobilized orthopaedic patients.
- Patients who are willing to participate in the study.
- Patients who were available at the time of data collection.
- Evaluation of the effectiveness of STP is in terms of knowledge scores.
- The period of data collection is one month.

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

Review of literature is a key step in the research process. Review of literature refers to an extensive, exhaustive and systemic examination of publications relevant to the research question to identify what is known and not known about a topic, to identify a conceptual a theoretical tradition within the bodies of literature, and to describe methods of enquiry used in earlier work including their success and short comings.

Review of literature for the study has been organized under the following headings.

2.1 Literature review related to the study

2.1.1Incidence and prevalence of orthopaedic trauma.

2.1.2Complications of immobility.

2.1.3Prevention of complications of immobilized orthopaedic patients.

2.1.4 Effectiveness of structured teaching programme.

2.1.1 Incidence and prevalence of orthopaedic trauma.

Whitehouse MR, Berstock JR, (2017) conducted a prospective study regarding incidence of hip fractures generally occur in a frail comorbid population with a consistent diagnosis precipitating admission as an emergency. Using data from a prospective national database of hip fractures, we investigated the association between day of the week of admission, surgery, inpatient stay, and discharge (care pathway milestones) and 30-day mortality using generalized linear models. Data was collected between January 1, 2011, and December 31, 2014, on 241,446 patients. The day of admission was not associated with 30-day mortality. Sunday surgery (OR, 1.094; 95% CI, 1.043-1.148; P<0.0001) and a delay to surgery of more than 24-hours (OR, 1.094; 95% CI, 1.059, 1.130; P<0.0001) were both associated with a 9.4% increase in 30-day mortality. Discharge from the hospital on a Sunday (OR, 1.515; 95%

CI, 1.224, 1.844; P<0.0001) or out-of-hours discharge (OR, 1.174; 95% CI, 1.081, 1.276; P<0.0001) were associated with a 51.5% and 17.4% increase in 30-day mortality, respectively. Mortality during the inpatient stay was 5.6% lower (IRR, 0.944; 95% CI, 0.909, 0.980; P=0.003) at the weekend compared to weekdays.[15]

Lee Y, Yang N (2015) conducted a study of the descriptive epidemiology of orthopedic trauma could use big data such as a nationwide health insurance databank to calculate prevalence's, or incidences with 95% confidence intervals (CIs), and analytic epidemiology of orthopedics could be also performed. All the enrolled cases could be divided into several subgroups for comparison, but a control group may be randomly selected from the other normal population by a matched method. In a retrospective data analysis, the odds ratio (OR) with the 95% CI is evaluated, usually by a binominal logistic regression (LR) model or an innovative multi-level logistic regression (MLLR) model. In a retrospective cohort data analysis, the relative risk (RR) with the 95% CI is also evaluated, usually by a traditional survival analysis method, although an unconventional Poisson regression model can be used in some specific situations. A long-term registered database could be used to observe trends in some orthopedic issues, and furthermore, the period effect could be evaluated[16]

Mir Sadat-Ali, Abdallah S Alomran, QuamerAzam, Hasan N Al-Sayed et.al (2015)conducted a retrospective analysis was performed to determine the patterns of incidence of traumatic fractures and dislocations in the urban population of the Eastern Province of Saudi Arabia. Data were collected on all fractures and dislocations admitted to the orthopaedic wards between January 1, 2011 and December 31, 2014. The inclusion criteria were all patients admitted after trauma. The data collected included was the type of accident, fracture and dislocations sustained, surgery undertaken either emergency or elective, implants used, associated injuries, complications, status of the union of the fracture at the time of the final review and complications.

There were 1428 patients with 2056 fractures and dislocations. Five-hundred and eighty-four (40.89%) of the injuries were sustained in road traffic and motorcycle accidents. This analysis shows that road traffic accidents are still a major cause of trauma in an urban population and lower extremities form the common site of fractures. [17]

Steven.M.,Kurtz.(2015),conducted a study of published the growth trend for the incidence of joint arthroplasty, for the overall United States population as well as for the United States workforce, was insensitive to economic downturns. From 2009 to 2010, the total number of procedures increased by 6.0% for primary total hip arthroplasty, 6.1% for primary total knee arthroplasty, 10.8% for revision total hip arthroplasty, and 13.5% for revision total knee arthroplasty. The National Health Expenditure model projections for primary hip replacement in 2020 were higher than a previously projected model, whereas the current model estimates for total knee arthroplasty were lower. Economic downturns in the 2000s did not substantially influence the national growth trends for hip and knee arthroplasty in the United States. These latest updated projections provide a basis for surgeons, hospitals, payers, and policy makers to plan for the future demand for total joint replacement surgery.[18]

Bruce F.C Gomberg Gary S.Gruen, Wade R.Smith, Mary Ann Spot(2013) conducted a retrospective review of level I and II traumaadmissions with acute orthopaedic injuries over 10 years (1995-2005). Aggregate data were analyzed among five age group. Descriptive analysis were conducted for mechanism of injury,mortality, time of death, injury type, injury severity score (ISS), Glasgow coma scale (GCS) in presentation, length of stay (LOS), Discharge destination and hospital charges. Forty six percentages of the patients were in the 18-35 year old age group. However 21% of all patients were older than 65 years of age at the time of injury. Injury types were similar across all age groups mostly extremity fractures. Younger patients were more likely to be injured in amotor vehicle accident (MVA) whereas older patients

were injured in a fall. Hospital charges per hospitalization increased with age, although the total charges to the youngest age group were higher due to the group's high volume.[19]

SrinivasanD.K. Gautam Roy, S.Jagdish (2012) conducted a study on epidemiological factors related to road traffic accident. 726 road traffic victims reported in one year period, study variables were demographic characteristics of the victims, time, day, month of accidents, type of accident and vehicle involved in accidents. The result reveals that there were 83% male and 17% female accident victims. Laborers were the highest (29.9%) among the victims. The highest number of accidents took place in the month of January (12.9%) and on Sundays (17.1%). The occupants of the various vehicles constituted the large (45%) group of victims. Among the motorized vehicles, two wheeler drivers were more (31.1%) involved in accidents.[20]

NilambarJha, Chandra SekharAgarwal.(2011) conducted a one year comparativestudy in two hospitals of eastern Nepal. A total of 870 road traffic accidents (RTAs) victims were reported during the one year study period.The highest (28.6%) percentage of these cases was in the age group of 20-29 years. The laborers constituted the largest group (27.6%) involved in RTAs, followed by students (24.1%).The highest number (126, 14.5%) of RTA victims was reported in the month of July followed by January. The highest number of accidents occurred on Sundays (30.5%) and Fridays (20.0%) respectively. In the present study, 16.9% drivers were found to have consumed alcohol 2-3 hours prior to the accident. Buses (31.4%) trucks (12.3%) and bicycles (11.3%) were the common vehicles involved in RTAs.[21]

Mark R, Daniel ,O 'Connor(2010) conducted a descriptive study to determine the annual incident rates of nonworking related traumatic fractures and dislocations. A total of 3440 fractures and 422 dislocations were referred for orthopedic services during the three year study period. The incident rate of fracture referred for orthopedic services was 8.47 per 1000 member years, with a significant ($p<0.0001$) higher rate among males, between the ages of ten and

fourteen years had the highest rate of fractures referred for orthopedic services (21.52 per 1000 members years). The incidence rate of dislocations referred for orthopedic services was 1.04 per 1000 member peryear, which did not differ significantly (p=0.75) between genders. Members between the ages of fifteen and nineteen years had the highest rate of dislocation referred for orthopedic services (2.75 per 1000 member years) [22].

2.2 Complications of immobility

A. Malarvizhi, V. Hemavathy, (.2016) conducted an experimental study to assess the knowledge on complications of immobility among the immobilized patients in selected wards at selected hospital. Assessment of level of knowledge on complications of immobility among the immobilized patients was done by providing questionnaire. Results showed that 50% of the participants were having inadequate knowledge whereas 40%of them were having moderately adequate knowledge followed by 10% of them were having adequate knowledge on complications of immobility. None of the demographic variables had significant association with knowledge on complications of immobility among orthopedic patients. It was found that knowledge on complications of immobilization was inadequate. Keywords: Immobility, orthopedic wards, immobilized patients, complications.[23]

William Bart (2014) conducted a experimental study to observe the effect of nursing intervention on constipation of the sickbed patients in department of orthopedics N=80. Shown that result 5 patients had constipation in observation group after nursing intervention while 27 patients in control group after routine nursing the nursing effect of observation group was much superior to that of control group($p<0.01$). The results showed that nursing intervention can reduce the incidence of constipation.[24]

Joost.J.Etal (2012) conducted a prospective cohort study N=239. Data from all patients undergoing halo-vest immobilization were collected prospectively, and every complication was recorded. The primary outcome was

the presence or absence of complications. Univariate regression analysis and regression modeling were used to analyze the results. The author suggested that there are relatively low rates of mortality and pneumonia during halo-vest immobilization and elderly patients do not have an increased risk of pneumonia or death related to helo –vest immobilization.[25]

Baumgarten M, Margolis DJ. Orwig DL, Shardell MD, Hawkes WG, Lengenberg P et.al (2011) conducted a prospective study indicating that the elderly with hip fracture have greater risk for pressure sores N= 658. In 658 study participants, the APU cumulative incident at 32 days after initial hospital admission was 36.1% (standard error 2.5%). The adjusted APU incident rate was highest during the initial acute hospital stay(relative risk (RR)=2.2, 95 % CI=1-4.2%), the relative risks in rehabilitation and nursing home settings were 1.4 (95%) CI=0.8- 2.3) and 1.3 (95% CI=2.1) respectively. Approximately one third of hip fracture patients developed an APU during the study period. Hip fracture patients constitute an important group to target for pressure ulcer prevention in hospitals.[26]

Morad N, Nelson NP, Merrick.J, Davidson PW, Carmeli E(2009) conducted a descriptive study to examine the prevalence and risk factors for constipation in a large sample of 2400 persons with intellectual disability(ID) aged 40 years and older living in residential care centers in Israel.Constipation was found in 8% of the total sample with no significant increase in the prevalence of constipation with age. Neurological disease, cerebral palsy,immobility and physical inactivity were risk factors associated with constipation . mobility and physical activity is recommended in order to lower the prevalence of constipation in this population.[27]

Pecina M. Smoljanovic T, Cievara- Pecina T, Tomak-Roksandic .S (2008) conducted a descriptive study of osteoporosis in the elderly at Croatia. Epidemiologically consequences of injury, their complications, from reduced mobility, pressure sores, contractures, infections, and hypostatic pneumonia are strongly emphasized in the elderly. 17% of Croatian populations were over 60

years. 5489 hip fracture cases were registered and 382 of them died from fracture complications.[28]

Chauhan V S, Goel. S, Kumar P, Srivastava S, Shukla V K (2007) conducted a cross sectional study in a university hospital in Varanasi, India to estimate the prevalence of pressure ulcers in hospitalized patients and any underlying or predisposing factors to ulceration N=445. The results showed that the prevalence of pressure ulcers was high (4.94%). Anaemia, malnutrition and diabetes were important risk factors, while morbidity due to pressure ulcers in long stay wards, such as neurology was morbidity due to pressure ulcers in long stay wards, such as neurology was exceptionally high (40.9%). Therefore pressure ulcers remain one of the most neglected aspects of health care provision in India and identifying their associated risk factors at an early stage may go a long way in preventing their occurrence.[29]

Lingren M, Unosson M, Fredrikson M, EK. AC (2007) conducted an experimentalstudy to identify risk factors associated with pressure ulcer development N=530. The risk assessment scale used to assess the pressure sore(RAPS) scale, including the following variables ,general physical condition. Activity mobility, moisture, food intake, fluid intake, sensory perception, friction and shear, body temperature and serum albumin. In the multiple logistic regression analyses-immobility emerged as a strong risk factor. When adding the remaining significant variables in the analyses, mobility, time of hospitalization, age, surgical treatment and weight were found to be risk factors for pressure ulcer development. It is confirmed that immobility is a risk factor of major importance for pressure ulcer development among adult hospitalized patients. [30]

MasottiL, Ceccarelli. E(2005) conducted a comparative study to determine the risk factors associated with prolonged hospital stay in elderly patients with commonly acquired pneumonia. Patients were divided into two groups with length of stay more than 13 days and length of stay less than 13days. A prolonged hospital stay was associated with a higher fever peak and

a higher number of days with fever. In conclusion they suggest knowledge of the risk factors for prolonged hospital in elderly in hospital with commonly acquired pneumonia used to identify and high risk patients, prevent the risk with prophylactic measures.[31]

2. 3 Prevention of complications of immobilized orthopedic patients.

Karoon Agrawal and Neha Chauhan, Indian J Plast Surg. (2016) The National Pressure Ulcer Advisory Panel (NPUAP) is an independent American organization established in 1987. This non-profit organization deals with prevention, management and research on pressure ulcers. Similarly EPUAP was formed in December 1996 in London to support prevention and prepare guidelines for the management of pressure ulcer in all the European countries. Their mission statement reads as "to provide for the relief of persons suffering from or at risk of pressure ulcers, in particular through research and the education of the public."[32]

Berlin, (2012) conducted a retrospective case analysis was conducted in orthopedic and accident department at Queen's Medical Centre, UK, to determine the incidence of pressure ulceration in patients treated with cervical spine immobilization. Halo immobilization was used most frequently, with the mean time in halo vest immobilization being 74 days, 1% pressure ulcer was reported in patients with halo immobilization, 90 consecutive clients were analyzed and the study concluded that patients with cervical spine immobilization have an increased risk of developing pressure ulcer. [33]

Ami Hommal, Karin B Bjorkelund, Karl-GoranThorngren M, Kerstin Ulander (2011) conducted an experimental study on patients with hip fractures N=478. The results from the first 210 patients in the control group and the last 210 patients in the intervention group are presented in this article. In the intervention group, hospital acquired pressure ulcers decreased by 50% ($p<0.007$). It is possible to reduce the development of hospital acquired pressure ulcers among elderly patients with a hip fracture even though it is not

possible to eliminate the effect of factors such as increased age and the patient's medical status which are often the two main risk factors.[34]

Carina Baath, Marie-Louise Hall –Lord, Inger Johansson and Bodil Wilde Larsson.(2010) conducted a retrospective study in Sweden to describe and compare documented nursing assessment and care of skin in hip fracture patients in two settings. A retrospective review was made of 170 inpatient records from one country hospital (hospital A) and two hospitals (hospital B) all in one countrycouncil in Sweden. This study highlights the need for continuous audit of patient records with feedback to registered nurses (RNs) in order to follow the quality indicators and national principle for pressure ulcer prevention.[35]

Rosemary Masterson (2010) conducted a descriptive study on the women with fractures of the thigh or wrist each year as a result of osteoporosis. This study investigates the knowledge levels of females aged 55 and about the effects,risk factors and prevention of osteoporosis. A descriptive survey design and a convenience sample of 60 female orthopaedic patients were used. Data was collected with a questionnaire and analyzed using descriptive statistics. Findings indicated that the women displayed a low level of knowledge with regard to the subject matter. If women are made awareof the effects, the risk factors andpreventive behaviors associated with osteoporosis, they may engage in self-care behaviors that will help prevent osteoporosis and thus prevent the complications.[36]

Maduri Reddy, Sudeep S. Gill, Paula A. Rochon (2009) conducted a study on prevention of pressure ulcers. Fifty nine RCTs (randomized controlled trails) were selected. Intervention assessed in these studies was grouped into 3 categories, i.e.,those addressing impairments in mobility, nutrition or skin health. Methodological addressed impaired mobility included the use of support surfaces, mattress overlays. While repositioning is a mainstay in most pressure ulcer prevention protocols. In patients with nutritional impairments, dietary supplements way is beneficial. The study reveals that repositioning the

patient, optimizing nutritional status, and moisturizing sacral skin were appropriate strategies for pressure ulcers, many of them had important methodological limitations.[37]

Kerstin Ulander, Larl-Goren Thorngren, Aml Hollel (2008) conducted a quasi-experimental study on a sample of 480 patients with hip fracture. The results showed that the male/ female ratio was in the control group 30/70% and in the intervention group 35/65% mean age was in the control group 81.5 years(SD 10.5) and 80.1 years (SD 10.4) in the intervention group. There were no patients with pressure ulcer on other places in the control group; while it was 0.5% in the intervention group. At discharge 15% versus 7.5% of the patients had a pressure ulcer at buttock. Six percent versus 3% of the patients had a pressure ulcer at heels of 3% versus 2.5% suffered from a pressure ulcer at other places. None of the patients in the intervention group had a pressure ulcer after four month. The results indicate the importance of the intervention since the development of pressure ulcer was reduced by 50% at discharge and at follow up after four months.[38]

Kamel HK, Iqbal MA, Mogallapu R, Mass D. Hoffmann RG (2009) conducted a retrospective observational study on time ambulation after his surgery; relation to hospitalization outcomes. The main aim was to test how the time to ambulation (walking) after hip fracture surgery impacts the frequency of postoperative complication and length of hospital stay. Retrospective observational study was done. A total of 131 participants were identified (68% were aged 65 years or older) .The results showed that time to ambulation after surgery was an independent predictor for the development of phenomena (1.5OR [odd ratio]/day.P.001),new onset delirium (1.7OR/day,P.001)and to prolonged length of hospital stay (B[slope coefficient]=1.36,.001).To conclude that delayed ambulation after his fracture surgery is related to the development of new onset delirium and phenomena postoperatively as well as increased length of hospital stay.Earlyambulation after hip fracture should be encouraged.[39]

Kerry Houghton Peregrina, Donna GilliesB(2008) conducted a small descriptive study on patients with Thomas splint which was used to immobilized the fractures femur. Results suggest that the duration between pressure cares may be reduced from 2 to 6 h (possibly 4 h).Thus reducing the risks associated with movement of the fractured leg.[40]

Desouza Sheila Melba.(2008) conducted adescriptive study was to assess the effectiveness of nursing intervention in alleviating the problem as perceived by 50 hospitalized orthopaedic patient selected through convenience sampling. The descriptive exploratory approach was adopted. NS9 intention interview schedule with 90 items and a checklist with a three- point rating was designed. Findings of the study were: the most perceived problem was urinary retention (46%), and the least was diarrhea(8%). Pain was the most frequent complaint of the patients(92%), 14% had foot drop,8% had no family support, 30% of the patient had financial problems, 20% of the patient were unhappy with nurses attitude and lack of information about their conditions. Most effective nursing care in alleviation retention was offering urinal and privacy during urination (100%). There was no association between the perceived problems and the variables, age,durationof stay, and the type of immobility of the patient. There was no association between the perceived problems and sex. There was no significant relationship between the perceived biophysical and psycho social problems.[41]

Ouellet LL, Turner TR, Pond S, Mc Laughlin H, Knorr S (2007) conducted a quasi-experimental study on orthopaedic patients, the addition of wheat fibre in the diet of post-surgical orthopaedic patients as a means of preventing constipation was studied using a quasi-experimental design. It was hypothesized that 20gm supplement of all bran and neutral bran would promote spontaneous bowel movements, reduce the incidence of constipation, and the decrease the need for elimination interventions. The results show that the study

group had most spontaneous bowel movements and required fewer elimination interventions than did the control group.[42]

Ross DG (2007) conducted an exploratory study compared a group of 154 elderly with 149 middle –aged subjects from two northern New England Hospital. Analysis included descriptive statistics, t-tests, and multiple regressions. Multiple regression analysis was used to examine controlling for effects of gender, severity of illness, functional status, and cognitive status: producing a significant co-efficient for only the elderly (R2=0.13,,.01) therefore these results support the supposition that activity and diet play a greater role in changes in bowel elimination pattern for elderly patients than middle age admitted to acute care hospital.[43]

2.4 Effectiveness of structured teaching programme

Thomas Karen. M, Sethras, Kristen. A(2014) conducted a study to evaluate the effect of apre-operative interdisciplinary educational intervention on understanding postoperative expectations following a total joint orthoplasty N=156. The study demonstrated that the preoperative interdisciplinary educational program for patients scheduled for total joint replacement surgery had a positive effect on the understanding of postoperative expectations. The educational sessions have continued providing an option that will enhance preoperative education.[44]

Rankinen. S, Salantera, S, Heikkinen K, Johansson K, Kalijones A. Vietanen H et.al (2013) conducted a descriptive study on the surgical patients to assess their knowledge. The aim was to compare surgical patient's knowledge expectations at admission with knowledge they received during their hospital stay. The study used a descriptive and comparative design N=237. The result showed that surgical patients felt they received less knowledge than they felt expected on the bio-psychosocial, functional, experimental, ethical dimensions of knowledge. In conclusion the results

highlighted the need for improved patient education and the need to receive knowledge.[45]

Anthony Delaney, Hilary Gray, Kevin B Laupland(2011) conducted a comparative study of risk of nosocomial pneumonia and atelectasis is high among critically ill immobilized patients. We hypothesized that continuous turning on the kinetic treatment table would reduce their incidence. Sixty-five critically ill patients, immobilized because of head injury or traction, were prospectively randomized for treatment in a conventional bed (n = 38) or the kinetic treatment table (n = 27). Patients were well matched for baseline demographic and pulmonary risk factors. Patients in the conventional bed group had a higher incidence of cigarette smoking. The combined incidence of significant atelectasis or pneumonia was higher (66%) in the conventional vs. kinetic treatment table (33%) groups ($p < .01$). Atelectasis, pneumonia, adult respiratory distress syndrome, requirements for ventilator treatment, for PEEP, and for an Fio2 > 0.50 were not significantly different, but tended to be higher in the control group. Survival and the incidence of decubitus ulcers were similar.[46]

Skalska A, Grodzichi T,(2010) conducted a experimental study on the prevention pressure ulcer and evaluation of awareness in the families of patients at risk. 62 caregivers (78% family member and 22% non-related) filled out the questionnaire related to the prevention and treatment of pressure sores. The result showed that only 11% knew about the pressure ulcer, 42% of care givers were not aware of thepossible pressure ulcer causes and 54.8% were not able to mention any pressure ulcer risk factors. They concluded that the families and care givers bedridden patients have insufficient knowledge of pressureulcerprevention, indicating the need of providing knowledge regarding pressure ulcer prevention.[47]

Roopa Lakshmi MR (2009) conducted a experimental study and effectiveness of planned nursing intervention an early detection of selected malignancies of females among female high school teachers of selected high

schools of Bangalore. From the findings it is clear, that the mean test knowledge score 77.7% of experimental group was significantly higher than that of pre-test knowledge score 37.8%. This indicates that planed teaching programme is effective in increasing the knowledge among the patients.[48]

Kirsi Johansson, Sanna Salantera, Joukao Katajisto, Helana Leino-Kilpi (2008) conducted a experimental study to access patients knowledge regarding orthopaedic patients (response rate 81%)and 56 nurses (response rate67%)on three orthopaedic wards in a Finnish university hospital in 2001.Data were collected using two parallel,purpose designed mainly structured questionnaires personals discussions, written material and demonstration/knowledge, were the most commonly used educational methods, while videos and PCs were seldom used, Patients knowledge about their care was quite sufficient, but in matters conceding unwanted effects of treatment and potential problem it was inadequate. According to nurse's self-assessments, their educational skills were best in the area of mastering the content and poorest in that of using different educational methods. The result indicated that both the content and methods of orthopaedic patient's education should be developed.[49]

Lewis Cindy, Kathy, Wong Dianne.(2007) conducted a comparative study tocompared the outcomes of preoperative education provide in a non-interactive versus an interactive DVD program N=58. Convenience sample of 58 elective joint replacement patients were selected. Subjects were randomly assigned to the video or DVD group. Measurements included post education test of knowledge, patient's satisfaction questionnaire, and post discharge collection of data on physical therapy participation, complication, pain behavior and length of stay. The results showed that the participants in the DVD group had satisfactory higher knowledge scores and significantly more physical therapy visits. No satisfaction significant differences were noted in pain behaviors, rate of complications, patient's satisfaction or length of stay.[50]

Jamini Kurian (2005)conducted a pre-experimental study Over 55 care givers of immobilized patient using stratified random samplingwere taken. The purposes of the study to determine the effectiveness of structured teaching program on prevention of pressure sore .The study adopted one group pre-test post- test design. The data was collected by using structured interview schedule and analyzed. The data showed that, the post- test knowledge is significantly higher than pre- test knowledge. The investigator concluded that the structured teaching program was a good method for conveying information to the care givers and was very effective.

2.5 Conceptual framework

The conceptual frame work represents a less formal attempt at organizing a phenomenon. Conceptual model deals with concepts that are used building blocks and provide a conceptual perspective regarding interrelated phenomena which are closely structured.

The purpose of conceptual frame work is to provide a logical and coherent basis through which phenomenon of concern can be understood and discussed.

The conceptual framework for this study was developed by the investigator adopted from Pender's (1996)health promotion model. It was designed to be a complimentary counterpart to models of health protection; health promotion is directed at increasing client levels of well-being.

Pender's health promotion model seeks to increase individual health promotion activities. The models focus on cognitive, perceptional and modifying factors and participation in health promotion behavior. The model also identifies factors that influence the health promotion activities.

This model focus on three function

1. It identifies the factors e.g.(demographic data) that enhance or decrease participation in health promotion.

2. Cues to action (explains the likelihood of a client participating in STP which includes general information about complication of immobility and prevention of these complications).

3. Participation in health promotion behavior explains, gains knowledge related to prevention of selected complications among immobilized orthopaedic patients.

In the present study, the concepts from Pender's health promotion model are utilized where the immobilized orthopaedic patients act as an agent with their knowledge regarding prevention of complications.

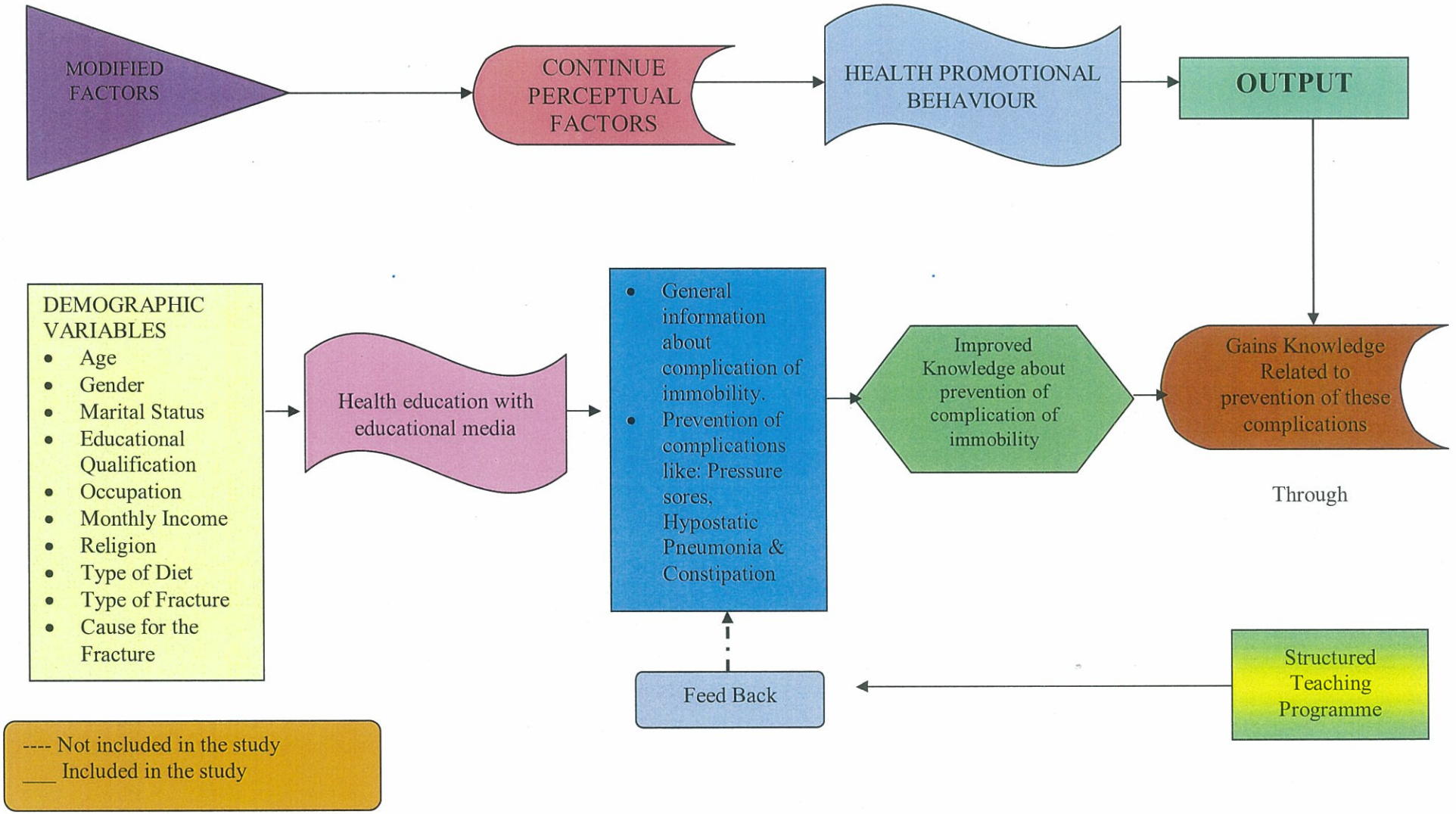
The focus of the model is to explain the factors that influence the knowledge of immobilized orthopaedic patients regarding prevention of complication.

Health promotion behavior of the patients in prevention of these complications are influenced by many factors such as age, gender, family income per month, education, occupation, type of fracture and causes of fracture.

If the immobilized orthopaedic patients has adequate knowledge regarding prevention of complications (cognitive perceptual factors), she/he is likely to engage in health promotional activity. If the knowledge of the patients regarding prevention of complication due to immobility are inadequate, the health promotion behavior is interrupted which leads to increase in severity of the disease.

The findings of this study would assist in identification of the immobilized orthopaedic patient's knowledge regarding prevention of complications and preparation of structured teaching programme intervention for effective identification of deviation from normal.

FIGURE 2:1 :PENDER'S HEALTH PROMOTION (1996)



RESEARCH METHODOLOGY

CHAPTER III

METHODOLOGY

This chapter deals with the description of research methodology to evaluate the effectiveness of Structured Teaching Programme regarding preventionof selected complication among immobilized orthopaedic patients in Rajiv Gandhi Government General Hospital, Chennai.

The steps undertaken for gathering and organizing the data collected were; research approach ,research design, setting, population, sample and sampling techniques, criteria for selection of samples, development and description of tools, pilot study, data collection and plan for data analysis.

3.1. Research approach

Quantitative approach was used in this study.

3.2. Research design

The research design used in this study was "Pre- experimental one group pre-test and post-test design.

Group	Pre-test	Intervention	Post –test
Study Group	O_1	x	O_2

O_1-Pre-test

X- Structured Teaching Programme,

O_2- Post-test

3.3. Setting of the study

The study was conducted in the orthopedic wards of Rajiv Gandhi Government General hospital, Chennai-03. It is one of the biggest hospitals in South East Asia with 3100 beds and has all specialties and super specialties.

The first orthopaedic service in Tamilnadu was started in Rajiv Gandhi Government General Hospital in the year of 1929 initially as an outpatient service. In the year 1931 in patient facilities were started.

In 1949, a separate orthopaedic department was established by Lt.Col.V.R.Thayumanaswamy who was the first Professor of Orthopaedic surgery. The current bed strength is 400 in the department of orthopaedics and traumatology. RGGGH is the largest department in a government Hospital set up in the whole of India.

The director in charge of the institute of Orthopaedics is Professor. Deen.Mohammed.Ismail,M.S (Ortho)., D.Ortho. There are totally 4 units in the department.

3.4.Data collection period

The study was conducted for a period of four weeks from 21/11/2016 to 18/12/2016.

3.5 Study population

Includes immobilized orthopaedic patients who met the Inclusion Criteria

3.5.1.Target population

Immobilized patients admitted at orthopaedic wards of RGGG Hospital, Chennai.

3.5.2.Accessible population

Who are available in the Orthopaedic wards at the time of data collection.

3.6 Study sample

Samples are immobilized orthopaedic patients, who met the inclusion criteria.

3.7 Sample size

The sample size was 60 immobilized orthopaedic patients.

3.8 Sampling criterion

3.8.1 Inclusion Criteria

- Immobilized orthopaedic patients with fracture who are willing to participate in the study and who consented to participate in the study.
- Immobilized orthopaedic patients who can understand Tamil or English.
- Patients who were available at the time of data collection.

3.8.2 Exclusion Criteria

- Orthopaedic patients who are critically ill.
- Patients who are immobilized due to multiple system problem.
- Orthopedic patients who are having GCS score < 15.
- Patient who are speech difficulties and sensory deficit.

3.9 Sampling technique

Sampling technique used for this study was convenient sampling technique based on the inclusion criteria.

3.10. Research variables

3.10.1.Independent variables

Structured Teaching Programme on prevention of selected complications among immobilized orthopaedic patients.

3.10.2. Dependent variables

Knowledge on selected complication of immobilized patients.

3.11 Development and description of the tool

3.11.1Development of the tool

Appropriate structured interview questionnaire tool has been developed after extensive review of literature and obtained expert's opinion and content validity from medical, nursing and statistics department. Construction and pre-testing of the tool was done during pilot study. Direct assessment of client was performed during data collection.

3.11.2 Description of the tool

The tool consists of 2 parts:

Part: I

Consists of 5 items related to socio demographic data of the subjects such as age, gender, family income per month, education, occupation.

Part: II

Structured schedule consists of 30 items on knowledge about immobilized orthopaedic patients and prevention of its complications. Each item of the knowledge has one correct answer. Every correct answer would fetch one mark, and the score of the knowledge schedule is 34.

Section- A: Consists of 5 items regarding general information about immobilized orthopedic patients and its complications.

Section –B: Consists of 7 items regarding pressure sores and its prevention.

Section-C: Consists of 10 items regarding hypostatic pneumonia and its prevention

Section-D: Consists of 8 items regarding constipation and its prevention

3.11.3Scoring Procedure

Each correct answer was given a score of 'one' mark and wrong answers "zero" score.

$$\text{Percentage} = \frac{\text{obtained score}}{\text{Total score}} \times 100$$

Minimum score = 0 Maximum score =1questions= 30 Total score=3

Table – 3.10.3: To find out association with the selected variables, the knowledge aspect was categorized into three groups

S no.	Grade	% of score
1.	Inadequate knowledge	0% - 50%
2.	Moderate knowledge	51% -75%
3.	Adequate knowledge	76% - 100%

3.12 Content validity of the tool

Validity of the tool was assessed using content validity. The prepared blue print of the tool along with objectives of the study was submitted to the experts for content validity. Experts from the nursing faculty and one doctor and statistician validated the tool content. The suggestions given by them were incorporate and the tool was modified. After the modifications they agreed this tool for evaluate the effectiveness of structured teaching programme regarding prevention of selected complications among immobilized orthopaedic patients in Rajiv Gandhi Government General Hospital, Chennai.

3.13.Reliability of the tool

The tool after validation was subjected to test for its reliability. Reliability of the tool was assessed by using Test-retest method and its correlation coefficient r –value was 0.85(knowledge). This correlation coefficient is very high and it is good tool for evaluate the effectiveness of structured teaching programme regarding prevention of selected complications among immobilized orthopaedic patients in Rajiv Gandhi Government General Hospital, Chennai.

3.14. Protection of human subjects

Following submission of study proposal, thepermission was obtained from Institutional Ethics Committee and Director of Institute of orthopaedics and traumatology. Written consent was obtained from each participant of the study before starting the data collection. Confidentiality of the results and anonymity were assured to the subjects. All the respondents were carefully informed about the purpose of the study and their part during the study, and how the privacy was guarded. Freedom was given to the client to leave the study at their will without assigning any reason. The routine care was altered or withheld. Throughout the study period the respect of the patients were maintained. Thus the investigator followed the ethical guidelines which were issued by the Institutional Ethical Committee.

3.15 Pilot study

After obtaining formal administrative approval the pilot study was carried out with 10 participants in orthopaedic wards in RGGGH. The purpose of the study was explained to the subjects and an informed consent was taken prior to data collection. Data was collected using prepared tool. Pre-test was conducted regarding knowledge on prevention of selected complications among immobilized orthopaedic patients. Then Structured teaching module were administered for 45 minutes. After the structured teaching programme

post-test was conducted. These 10 samples were not included in the main study. The data collected were tabulated and analyzed.

3.16 . Data collection procedure

1. The study will be undertaken after approval from institutional ethics committee.
2. Those who are willing to participate will be enrolled and informed consent will be obtained.
3. The immobilized orthopedic patients who fulfill the inclusion criteria and exclusion criteria are selected the groups.
4. The level of knowledge about follow up care is assessed with structured interview schedule pre-test to immobilized orthopedic patients.
5. I taught the structured teaching module (lesson plan)as small group or individually regarding, how to prevent selected complication that is hypostatic pneumonia, pressure ulcer, and constipation by using flash cards for 45 minutes session.
6. After that assess the knowledge (Post-test) regarding prevention of complication after the structured teaching programme. Confidentiality maintained.
7. Assessed the knowledge by post-test at after 7thday of teaching.

Preparation of Selected Specific Nursing Intervention

a) Preparation of first draft of STP: a first draft of STP was developed, keeping in mind the objectives, criteria checklist, literature reviewed and the opinion of experts. The main factors that were kept in mind while preparing STP were literacy level of the sample, method of teaching to be adopted, simplicity of language, relevance of teaching aids and attention span of orthopaedic patients.

b) Description of Structured Teaching Program: The STP was titled "concept of fracture, complications due to immobilized and its prevention," The STP was structured for one session, which was

prepared to enhance knowledge of orthopaedic regarding prevention of complication. It consists of the following content area.

- Concept of fracture
- Complication due to immobilization
- Prevention of pressure sores
- Prevention of Hypostatic pneumonia
- Prevention of constipation

3.17 . Intervention protocol

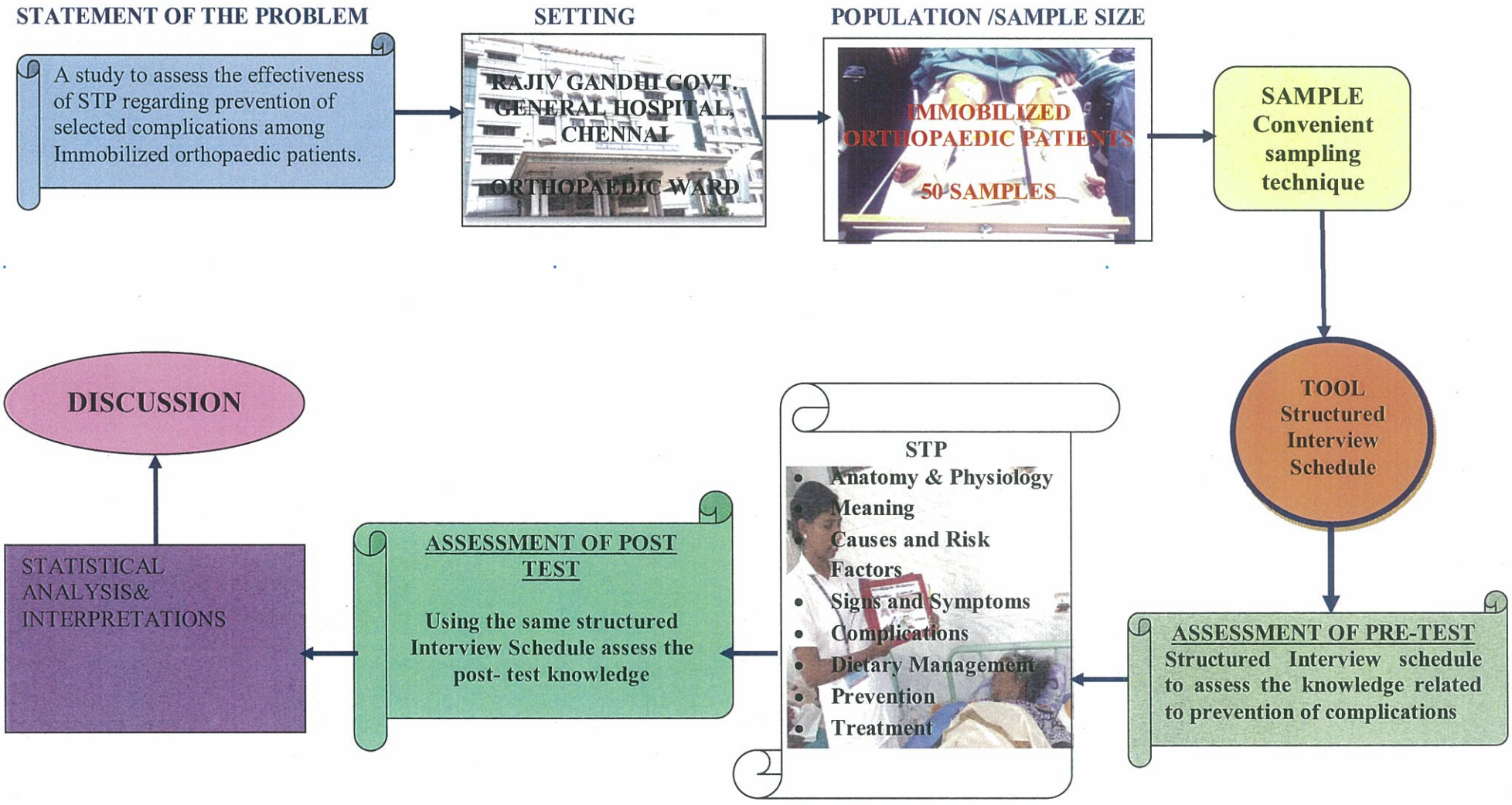
Place	:	Orthopaedic wards, in RGGGH, Chennai.
Intervention Tool	:	STP (Structured Interview Questionnaire)
Duration	:	45 minutes
Frequency	:	One-time teaching
Time	:	8 am to 4pm
Administered by	:	Investigator
Recipient	:	Immobilized orthopaedicpatients, in RGGGH, Chennai.

3.18. Data entry and analysis

The collected data was arranged in master sheet (coding sheet) and tabulated to represent the findings of the study. SPSS version has been applied. Both descriptive and inferential statistics was used. Descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (paired t-test, chi-square test, and Extended Mc-Nemar test) were used totest the research hypothesis.Demographic variables in categorical/dichotomous variables were given in frequencies with their percentages. Knowledge scores were given in mean and standard deviation. Difference between pre-test and

post-test was analyzed using student paired t-test. Statistical significant difference between pre-test and post-test level of knowledge score was calculated using Mc-Nemars test. Differences between pre-test and post-test score were analyzed using percentage with 95% CI and mean difference with 95% CI. Association between post-test Knowledge score with demographic variables is analyzed using chi square test.Association between Knowledge gain score with demographic variables are analyzed using one-way analysis of variance and student independent t-test. $P \leq 0.001$was considered statistically significant.

FIGURE – 3.1 SCHEMATIC REPRESENTATION OF STUDY DESIGN



DATA ANALYSIS AND INTERPRETATION

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the description of the sample, analysis and interpretation of data to evaluate the effectiveness of the structured teaching programme regarding prevention of complications among immobilized orthopaedic patients. The obtained data have been classified, grouped and analyzed statistically based on objectives of the study.

4.1.Organization of data

The analysis of the data has been organized and presented under the following headings:

Section – I : Distribution of samples according to demographic variables.

Section – II : Knowledge scores of immobilized orthopaedic patients before and after structured teaching programme.

Section –III : Comparisonof mean scores between pre-test and post-test knowledge scores of immobilized orthopaedic clients regarding prevention of selected complications.

Section –IV : To evaluate the effectiveness of structured teaching programme regarding prevention of selected complications among immobilized orthopaedic patients.

Section –V : Association between post-test knowledge scores with selected demographic variables.

4.2.Statistical analysis

- Demographic variables in categorical/dichotomous were given in frequencies with their percentages.
- Knowledge score was given in mean and standard deviation.
- Difference between pre-test and posttest was analyzed using student paired t-test.
- Categorical variables difference between pretest and posttest was calculated using Mc-Nemars test.
- Differences between pretest and post-test score was analyzed using percentage with 95% CI and mean difference with 95% CI.
- Association between posttest Knowledge score with demographic variables isanalyzed using chi square test.
- Association between Knowledge gain score with demographic variables are analyzed using one-way analysis of variance and student independent t-test.
- $P \leq 0.05$ was considered statistically significant.

SECTION –I :DISTRIBUTION OF SAMPLES ACCORDING TO DEMOGRAPHIC VARIABLES.

Table- 4.1:Frequency distribution and percentage of study samples according to their demographic and clinical variables.

DEMOGRAPHIC VARIABLES		FREQUENCY	%
Age	< 30 years	18	30.0%
	31 -40 years	12	20.0%
	41 -50 years	9	15.0%
	51 -60 years	9	15.0%
	61 -70 years	7	11.7%
	>70 years	5	8.3%
Sex	Male	33	55.0%
	Female	27	45.0%
Education	No formal education	10	16.7%
	Primary	25	41.7%
	Secondary	20	33.3%
	Degree	5	8.3%
Occupation	home maker	15	25.0%
	Labourer	17	28.4%
	Business	6	10.0%
	Government	2	3.3%
	Others	20	33.3%
Family monthly Income	<Rs. 5000	26	43.3%
	Rs.5000 - 10000	25	41.7%
	>rs.10000	9	15.0%

Above table reveals that distribution of respondents by age, gender, education status and occupation, income. The following inferences were made:

The result indicate that 30% of respondents were in the **age group** of < 30 years, followed by 20% in the age group of 31-40 years and 15% in the age group of 41-50 years, 11.7% in the age group of 51-60years,and 8.3% in the age group of > 70 years.

In relation to **gender**, majority 55% of respondents were males as compared to females 36% in the study group.

With respect to **educational status** 16.7% respondents did not have formal education. 41.7% had primary school, 33.3% of respondents has completed secondary education and 8.3% of respondents has degree holders.

The study indicates that the **occupation** 25% respondents were home maker in females, 28.4% respondents were laborer, 10% were doing business, 3.3% were had government jobs, 33.3% respondents were had other jobs.

The study indicate that 43.3% respondents having their **monthly income** Rs. <5000, 41.7% respondents had the monthly income of Rs. 5000-10000, and the 15% of respondents had the monthly income of Rs.>10000.

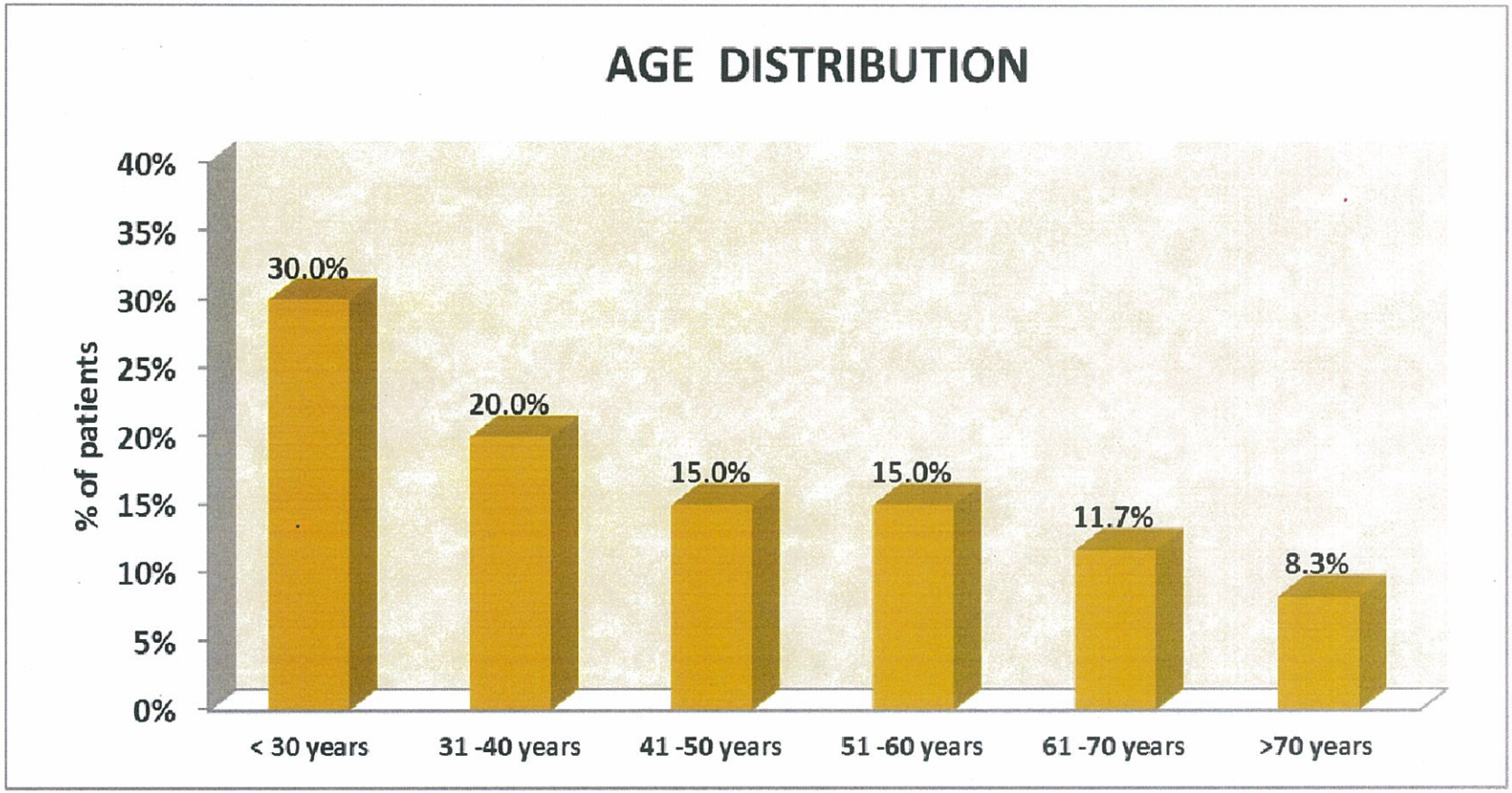


Fig:4.1 : Age wise distribution of study participants

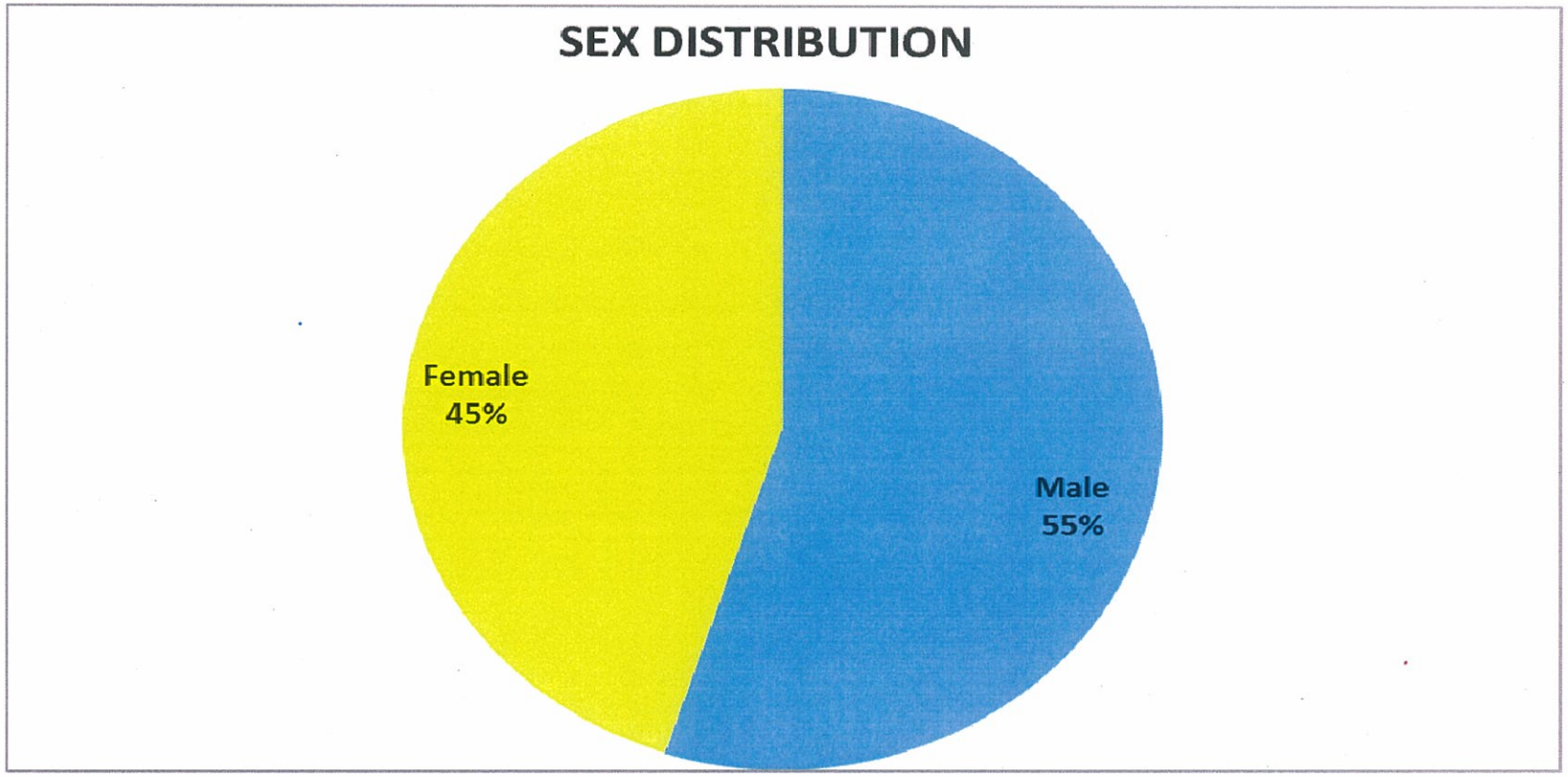


Fig:4.2 :Gender wise distribution of study participants

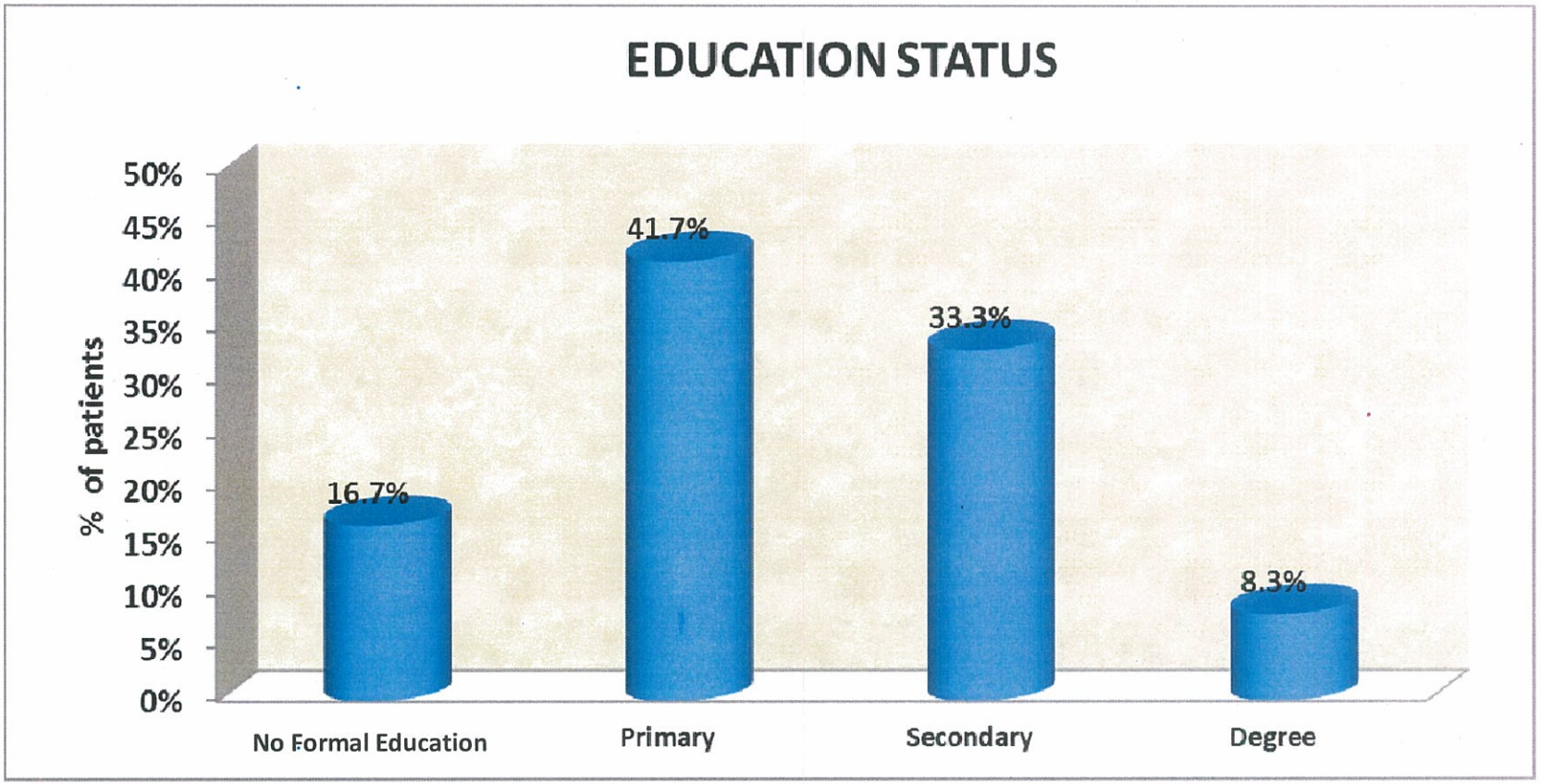


Fig4.3 :Distribution of respondents based on the educational status

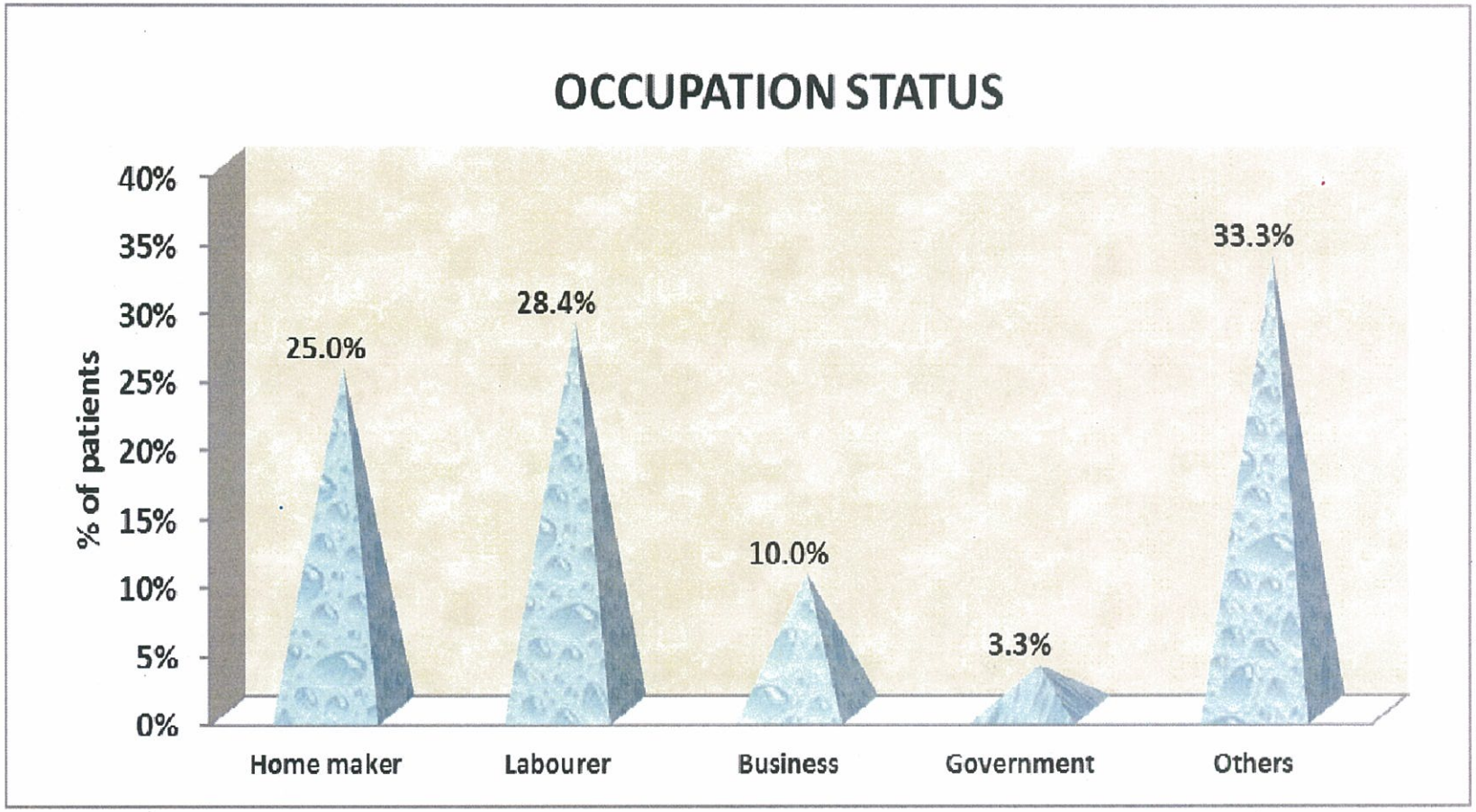


Fig 4.4 :Distribution of respondents based on the occupation

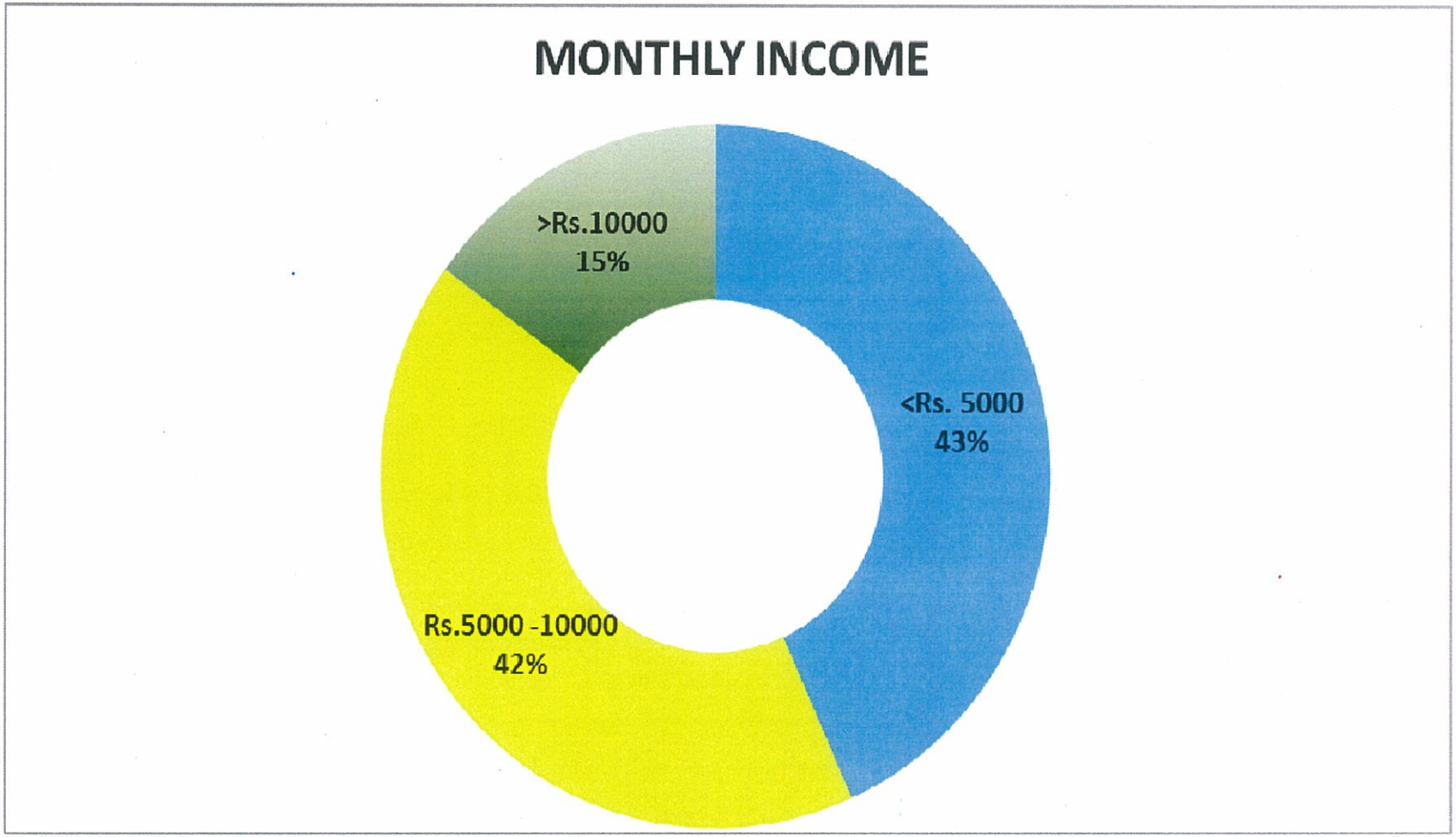


Fig:4.5:Distribution of respondents based on the monthly income.

SECTION-II: KNOWLEDGE SCORES OF IMMOBILIZED ORTHOPAEDIC PATIENTS BEFORE AND AFTER STRUCTURED TEACHING PROGRAMME

Table4. 2: Percentage of pre-test knowledge score

Domains	Maximum score	Pretest knowledge score		
		Mean	SD	% of knowledge
General information	5	2.25	1.19	45.0%
Pressure ulcer and its prevention	7	3.10	0.99	44.3%
Hypostatic pneumonia and its prevention	10	3.55	1.45	35.5%
Constipation and its prevention	8	3.22	1.03	40.3%
TOTAL	**30**	**12.12**	**2.44**	**40.4%**

Above table shows each domain wise pre-test percentage of knowledge score. Pre-test percentage of knowledge score regarding prevention of selected complications among immobilized orthopaedic patients shows that, they are having more score in **General information** (45.0%) and minimum score in **Hypostatic pneumonia and its prevention** (35.5%). Overall they are having 40.4% of score.

Table4. 3: Domain- wise percentage of pre-test knowledge score

Knowledge on	Inadequate Knowledge (≤50%)		Moderate Knowledge (51 – 75%)		Adequate Knowledge (76 – 100%)	
	No.	%	No.	%	No.	%
General information	49	81.7	11	18.3	0	0
Pressure ulcer and its prevention	51	85.0	9	15.0	0	0
Hypostatic pneumonia and its prevention	57	95.0	3	5.0	0	0
Constipation and its prevention	55	91.3	5	8.7	0	0
Overall	**53**	**88.7**	**7**	**11.3**	**0**	**0**

Above table showseach domain wise percentage of pre-test knowledge score on prevention of selected complications among immobilized orthopaedic patients.

Considering **General information** domain, 81.7% of the orthopaedic clients are having inadequate knowledge score, 18.3% had moderate knowledge score and none of them are having adequate knowledge score in the pre-test.

Considering **Pressure ulcer and its prevention** domain, 85.0% of the orthopaedic clients are having inadequate knowledge score, 15.0% had moderate knowledge score and none of them are having adequate knowledge score in the pre-test.

Considering **Hypostatic pneumonia and its prevention** domain, 95.0% of the orthopaedic clients are having inadequate knowledge score, 5.0% had moderate knowledge score and none of them are having adequate knowledge score in the pre-test.

Considering **Constipation and its prevention** domain, 91.3% of the orthopedic clients are having inadequate knowledge score, 8.7% had moderate knowledge score and none of them are having adequate knowledge score in the pre-test.

Table4. 4: Pre-test level of knowledge score

	Pretest level of knowledge score	
	No. of patients	**%**
Inadequate knowledge	53	88.3%
Moderate knowledge	7	11.7%
Adequate knowledge	0	0.0%
TOTAL	60	100%

Above table shows the pre-test level of knowledge score regarding prevention of selected complications among immobilized orthopedic patients, before administration of Structured Teaching Programme.

In pre-test, 88.3% of the orthopaedic clients are having inadequate knowledge score, 11.7% of them are having moderate knowledge score and none of them are having adequate knowledge score.

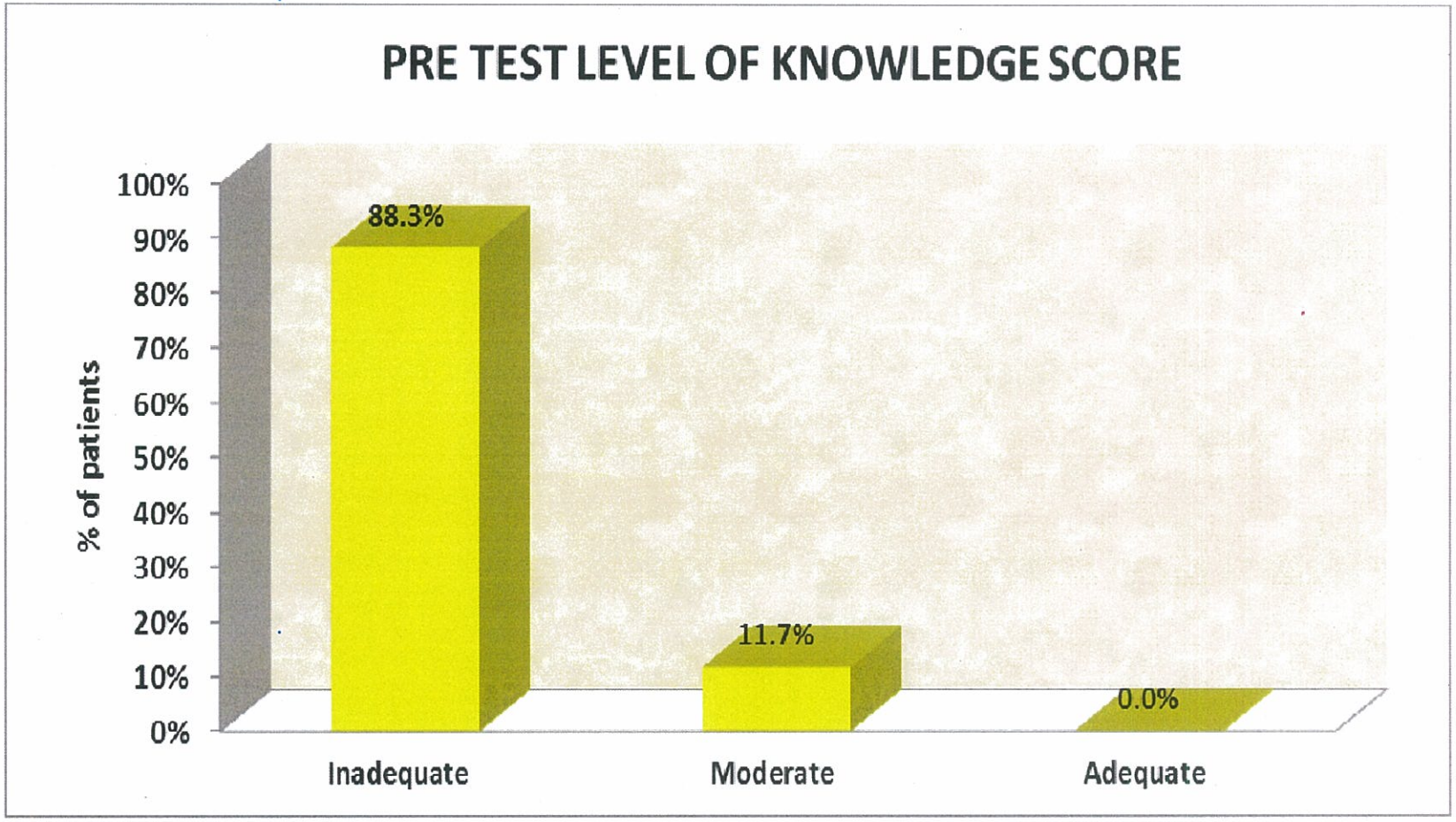


Table4.6 :Pretest level of knowledge score of study participants

Table4. 5: Percentage of post-test knowledge score

Knowledge on	Maximum score	Posttest knowledge score		
		Mean	SD	% of knowledge
General information	5	4.18	0.72	83.6%
Pressure ulcer and its prevention	7	5.55	1.33	79.3%
Hypostatic pneumonia and its prevention	10	7.75	1.58	77.5%
Constipation and its prevention	8	6.53	1.14	81.6%
TOTAL	30	24.02	3.13	80.1%

Above table shows each domain wise post-test percentage of knowledge score.

Post-test percentage of knowledge score regarding prevention of selected complications among immobilized orthopaedic patients shows that, they are having more score in **General information** (83.6%) and minimum score in **Hypostatic pneumonia and its prevention** (77.5%) Overall they are having 80.1% of score.

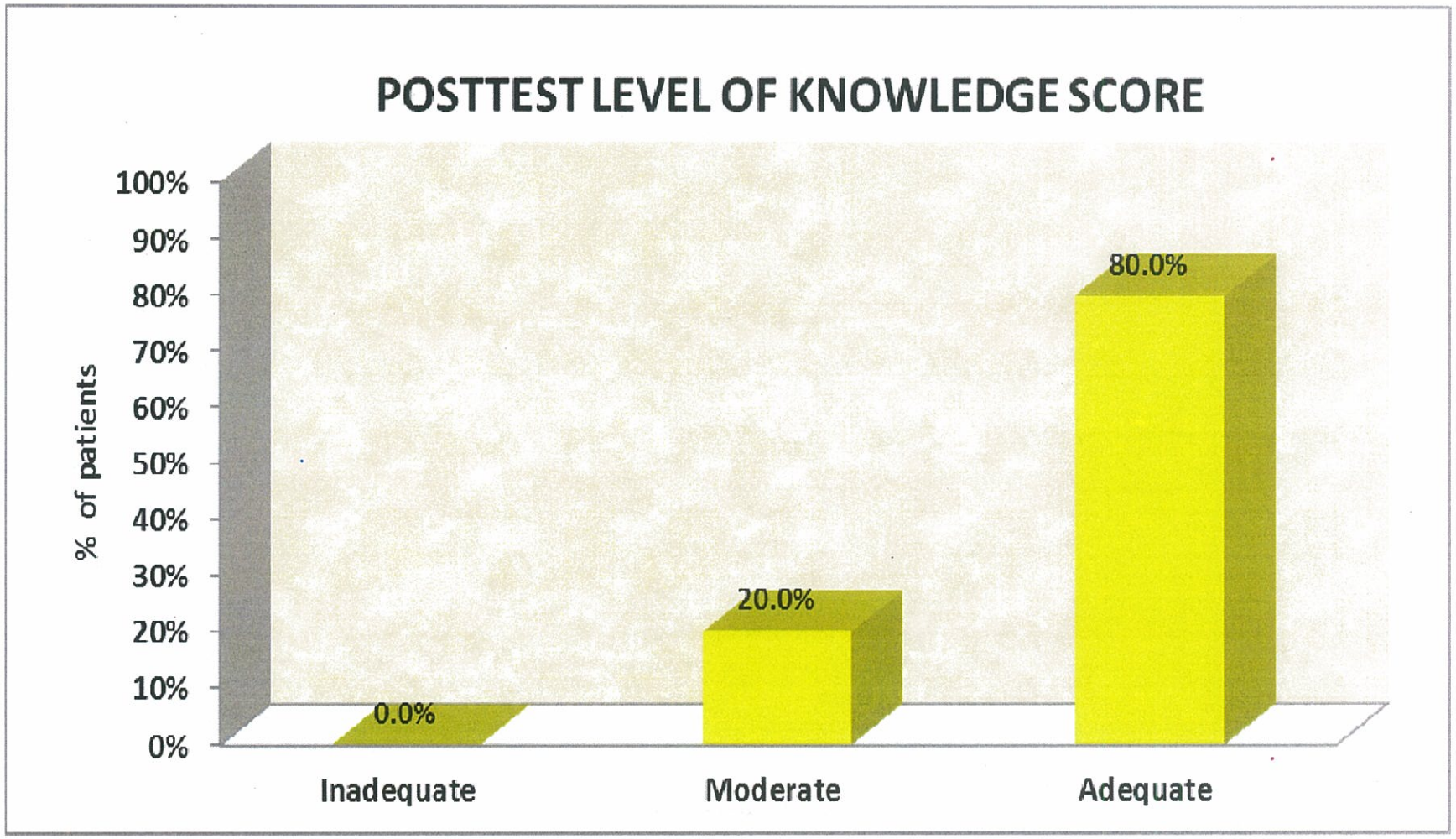


Fig 4.7 :Post -test level of knowledge score of study participants

Table 4.6: Domain –wise percentage of post-test knowledge score.

Knowledge on	Inadequate Knowledge (≤50%)		Moderate Knowledge (51 – 75%)		Adequate Knowledge (76 – 100%)	
	No.	%	No.	%	No.	%
General information	0	0	9	15.0	51	85.0
Pressure ulcer and its prevention	0	0	13	21.7	47	78.3
Hypostatic pneumonia and its prevention	0	0	15	25.0	45	75.0
Constipation and its prevention	0	0	11	18.3	49	81.7
Overall	**0**	**0**	**12**	**20.0**	**48**	**80.0**

Above table shows each domain wise post-test level of knowledge score on prevention of selected complications among immobilized orthopaedic patients.

Considering **General information** domain, none of the orthopedic patients are having inadequate knowledge score, 15% had moderate knowledge score and 85% of them are having adequate knowledge score in the pretest.

Considering **Pressure ulcer and its prevention** domain, none of the orthopedic patients are having inadequate knowledge score, 21.7% had moderate knowledge score and 78.3% of them are having adequate knowledge score in the pretest.

Considering **Hypostatic pneumonia and its prevention** domain, none of the orthopedic patients are having inadequate knowledge score, 25.0% had moderate knowledge score and 75.0% of them are having adequate knowledge score in the pretest.

Considering **Constipation and its prevention** domain, none of the orthopedic patients are having inadequate knowledge score, 18.3% had moderate knowledge score and 81.7% of them are having adequate knowledge score in the pretest.

Table 4.7: Post-test level of knowledge score

	Post-test level of knowledge score	
	No. of clients	**%**
Inadequate knowledge	0	0.0%
Moderate knowledge	12	20.0%
Adequate knowledge	48	80.0%
TOTAL	**60**	**100%**

Above table shows the post-test level of knowledge score regarding prevention of selected complications among immobilized orthopedic patients, after administration of Structured Teaching Programme.In post-test, none of the patients are having inadequate knowledge score, 20.0% of them are having moderate knowledge score and 80.0% of them are having adequate knowledge score.

Section –III : COMPARISON OF MEAN SCORES BETWEEN PRE-TEST AND POST-TEST KNOWLEDGE SCORES OF IMMOBILIZED ORTHOPAEDIC CLIENTS REGARDING PREVENTION OF SELECTED COMPLICATIONS.

Table4. 8: Comparison of pre and post-test mean knowledge score

Knowledge on	Knowledge score				Mean Difference	Student's paired t-test
	Pretest		Posttest			
	Mean	SD	Mean	SD		
General information	2.25	1.19	4.18	.72	1.93	**t=12.42, P=0.001*** **
Pressure ulcer and its prevention	3.10	0.99	5.55	1.33	2.45	**t=11.28, P=0.001*** **
Hypostatic pneumonia and its prevention	3.55	1.45	7.75	1.58	4.2	**t=17.26, P=0.001*** **
Constipation and its prevention	3.22	1.03	6.53	1.14	3.31	**t=15.85, P=0.001*** **
Overall	12.12	2.44	24.02	3.13	11.9	**t=30.12, P=0.001*** **

Significant at P ≤0.05*

Highly significant at P ≤0.01**

Very highly significant at P ≤0.001***

Considering **General information** aspects, in pretest, orthopedic patients are having 2.25 score where as in post-test they are having 4.18 score, so the difference is 1.93. This difference between pretest and post-test is large and it is statistically significant.

Considering **Pressure ulcer and its prevention** aspects, in pre-test, orthopedic patients are having 3.10 score where as in post-test they are having 5.55score, so the difference is 2.45. This difference between pre-test and post-test is large and it is statistically significant.

Considering **Hypostatic pneumonia and its prevention** aspects, in pre-test, orthopedic patients are having 3.55 score where as in post-test they are having 7.75score, so the difference is 4.20. This difference between pre-test and post-test is large and it is statistically significant.

Considering **Constipation and its prevention** aspects, in pre-test, orthopaedic patients are having 3.22 score where as in post-test they are having 6.53score, so the difference is 3.31. This difference between pre-test and post-test is large and it is statistically significant.

Considering **Overall**, in pre-test, orthopedic patients are having 12.12 score where as in post-test they are having 24.02score, so the difference is 11.90. This difference between pre-test and post-test is large and it is statistically significant.

Statistical significance was calculated by using student's paired 't'test.

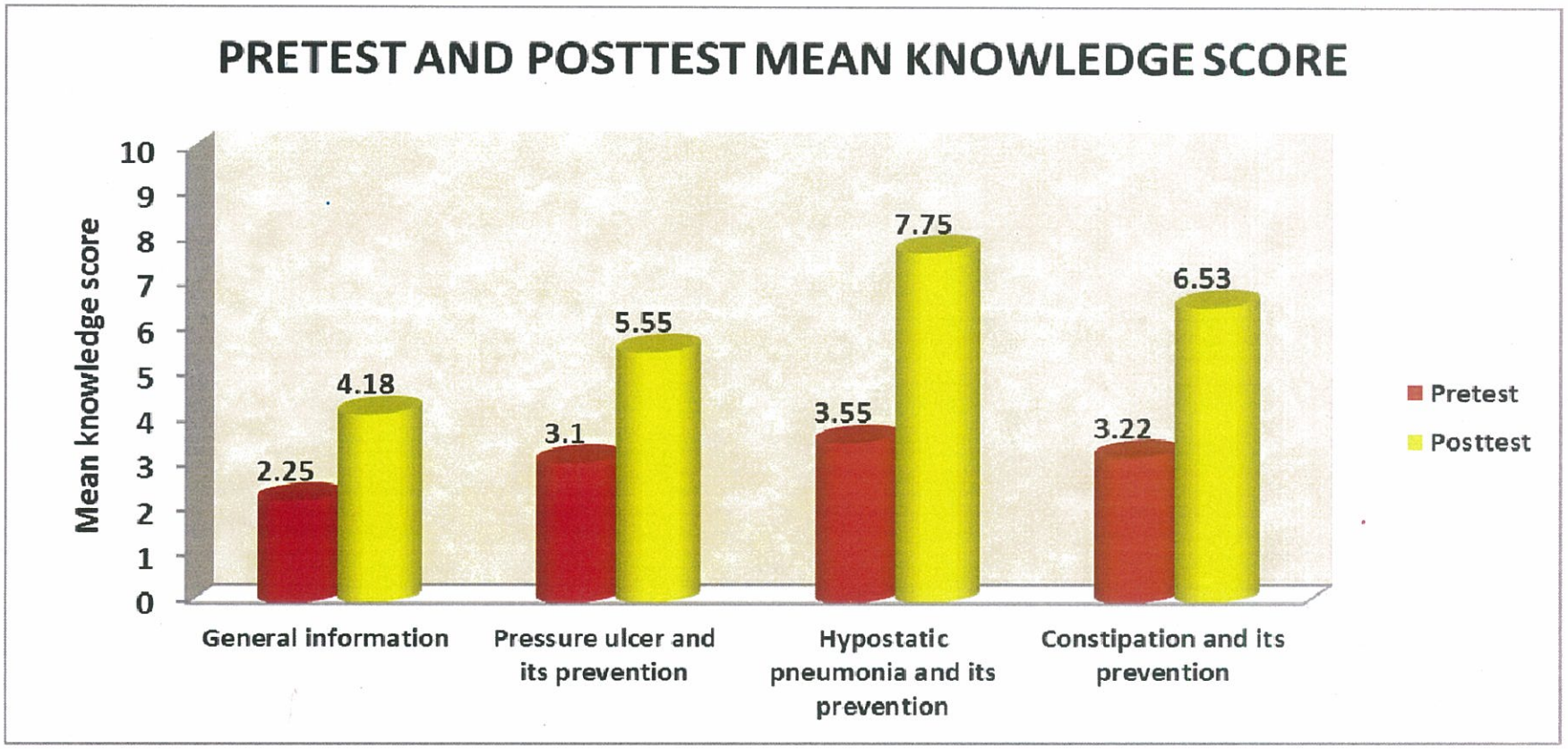


Fig:4.8 pre-test and post-test percentage of knowledge score

Table4.9: Comparison of overall pre and post-test mean knowledge score

	No. of orthopedic Patients	Knowledge score Mean ± SD	Mean Difference	Student's paired t-test
Pretest	60	12.12±2.44	11.90	t=30.12 P=0.001***
Posttest	60	24.02±3.13		

*** Very high significant at P ≤0.001

Above table shows the comparison of overall pre-test and post-test knowledge score.

Considering **Overall** pre-test and post-test knowledge score, in pre-test, orthopedic patients are having 12.12 score where as in post-test they are having 24.02 score , so the difference is 11.90. This difference between pre-test and post-test is large and it is statistically significant.

The difference between pre-test and post-test score is large and it is statistically significant differences between pre-test and post-test score was analyzed using students paired t-test.

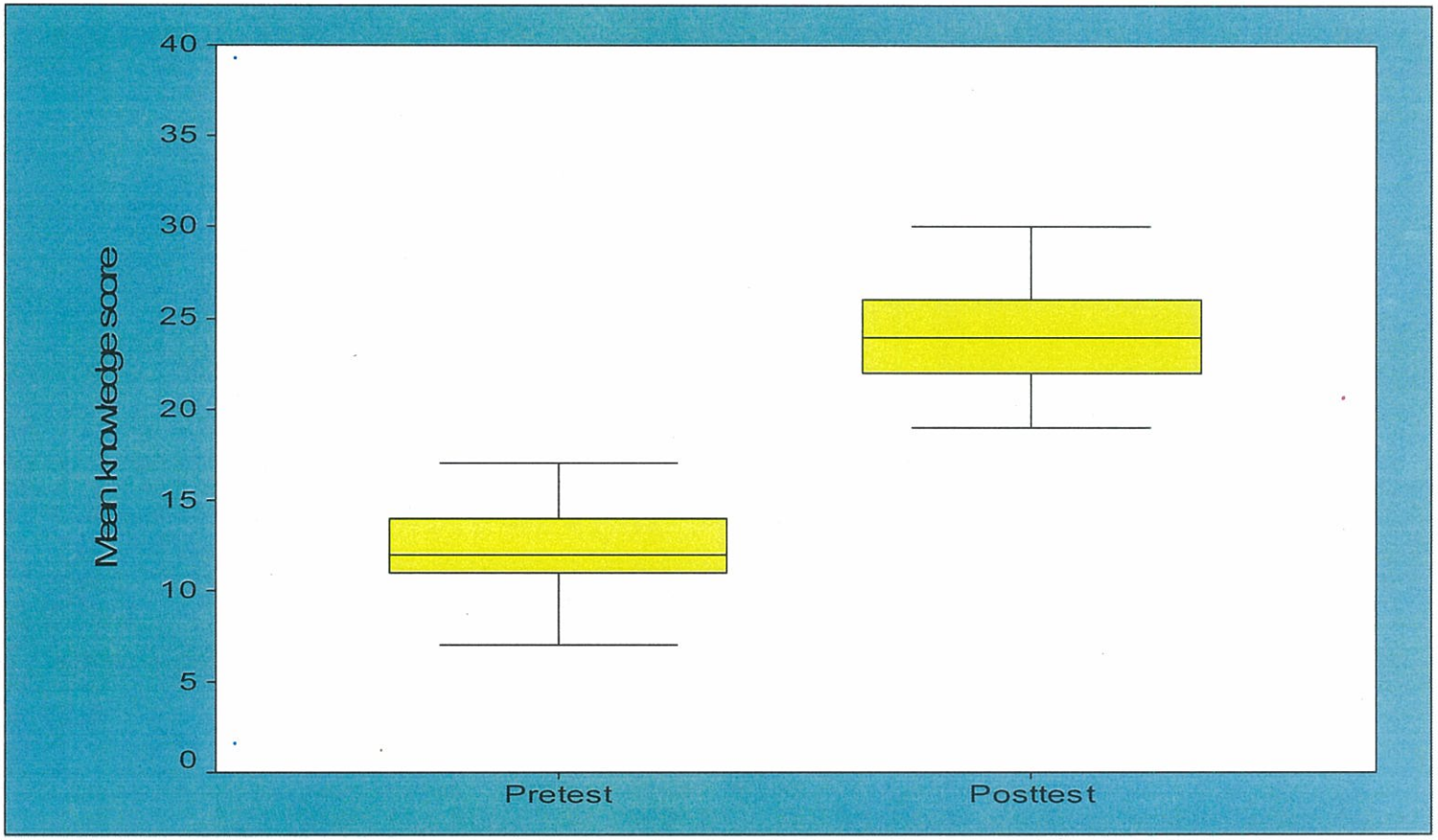


Fig:4.9: Box-plot Compares the pretest and posttest mean knowledge score regarding prevention of selected complications among immobilized orthopedic patients.

Table4. 10: Pre-test and post-test level of knowledge score

	Level of Knowledge				Extended Mc-Nemar's test
	Pre-test		Post-test		
	N	%	N	%	
Inadequate knowledge	53	88.3%	0	0.0%	**$\chi 2=54.58$ p=0.001*** **
Moderate knowledge	7	11.7%	12	20.0%	
Adequate knowledge	0	0.0%	48	80.0%	
TOTAL	**60**	**100%**	**60**	**100%**	

***very high significant at $P \leq 0.001$

Above table shows the pre-test and post-test level of knowledge score regarding prevention of selected complications among immobilized orthopaedic patients, before and after administration of STP.

In pre-test, 88.3% of the orthopedic patients are having inadequate knowledge score, 11.7% of them are having moderate knowledge score and none of them are having adequate knowledge score.

In post-test, none of the orthopaedic patients are having inadequate knowledge score, 20.0% of them are having moderate knowledge score and 80.0% of them are having adequate knowledge score.

Statistically there is a significant difference between pre and post- test level of knowledge score. It was confirmed using extended Mc-Nemar's test.

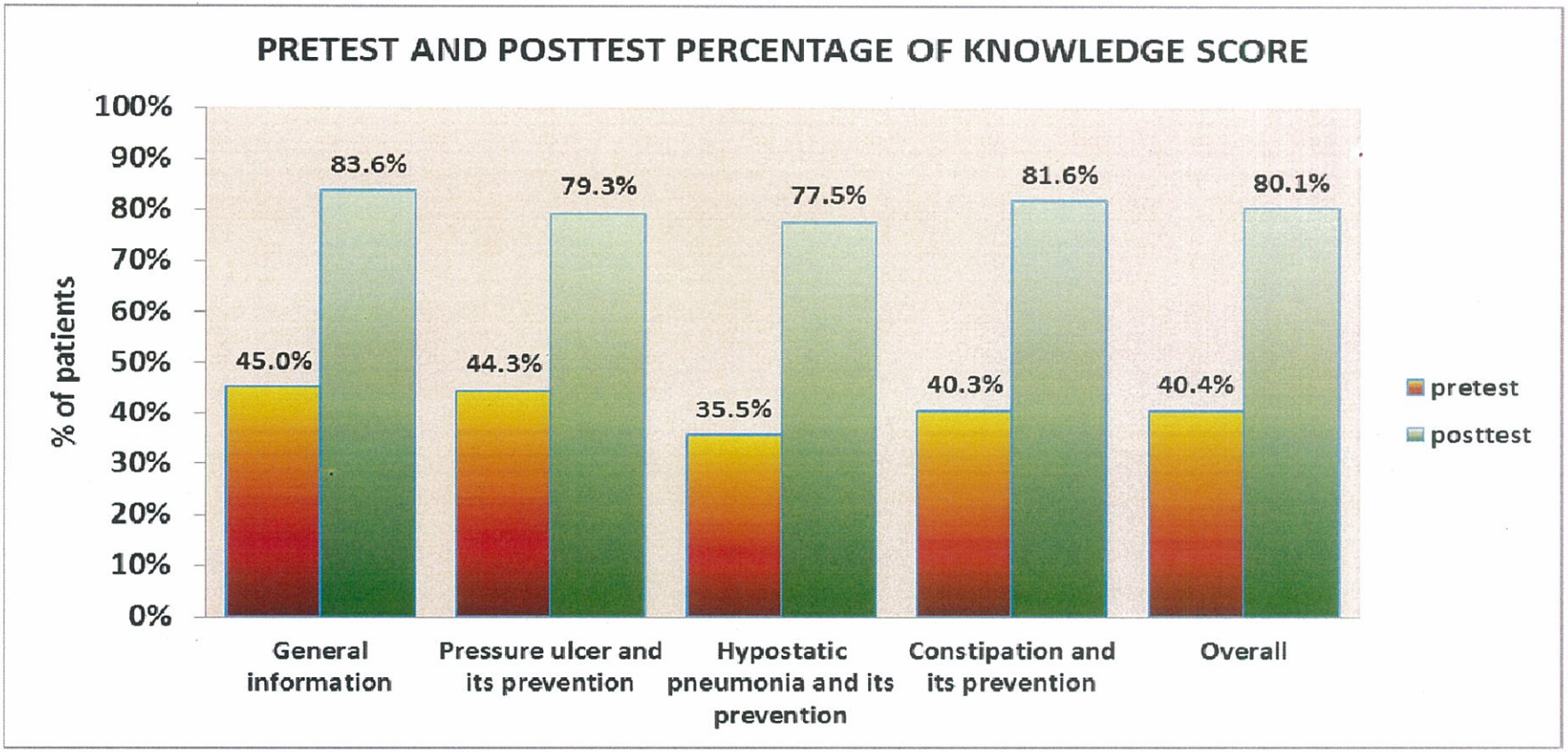


Fig 4.10:pretest and posttest percentage of knowledge score

SECTION–IV: TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME REGARDING PREVENTION OF SELECTED COMPLICATIONS AMONG IMMOBILIZED ORTHOPAEDIC PATIENTS.

Table 4.11: Percentage of knowledge gain score

	Max score	*Knowledge score* Mean ± SD	Mean Difference in score with 95% Confidence interval	Percentage of gain score with 95% Confidence interval
Pretest	30	12.12±2.44	11.90(11.11 – 12.69)	39.7%(37.0% – 42.3%)
Posttest	30	24.02±3.13		

Above table shows the knowledge gain score between pre-test and post-test.On an average, orthopedic patients are **gained** 39.7% ofknowledge score after administration of STP..Differences between pre-test and post-test score wasanalyzed using proportion with 95% Confidence interval and mean difference with 95% confidence interval. This 45.6% knowledge gain shows the **effectiveness** of STP.

Table 4.12: Effectiveness of structured teaching program on immobilized orthopaedic patients.

Domains	Pre-test knowledge	Post-test knowledge	% of knowledge gain
General information	45.0%	83.6%	38.6%
Pressure ulcer and its prevention	44.3%	79.3%	35.0%
Hypostatic pneumonia and its prevention	35.5%	77.5%	42.0%
Constipation and its prevention	40.3%	81.6%	41.3%
Overall	40.4%	80.1%	39.7%

Above table shows each domain wise percentage of knowledge gain score.

In **General information** aspects patients are gained 38.6% of knowledge score,

In **Pressure ulcer** and its prevention aspects patients are gained 38.6% of knowledge score,

In **Hypostatic pneumonia** and its prevention aspects patients are gained 38.6% of knowledge score,

In **Constipation** and its prevention aspects patients are gained 38.6% of knowledge score,

Overall they gained 39.7% of knowledge score after the ***administration of STP.***

This shows the effectiveness of structured teaching program on knowledge regarding prevention of selected complications among immobilized orthopaedic patients.

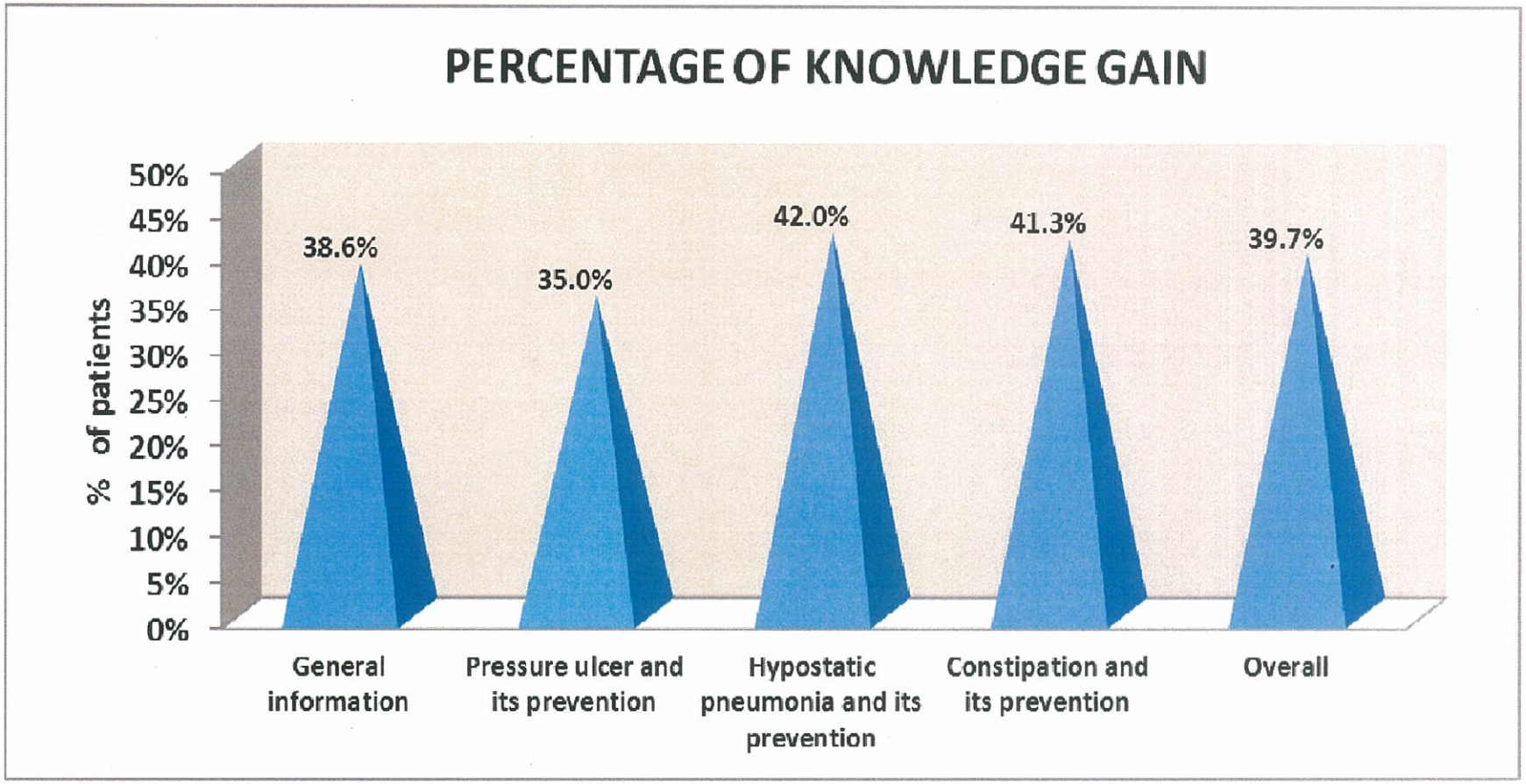


Fig.4.11 :Percentage of knowledge gain

SECTION-V : ASSOCIATION BETWEEN POST-TEST KNOWLEDGE SCORES WITH SELECTED DEMOGRAPHIC VARIABLES.

Table4. 13: Association between post-test level of knowledge score and orthopaedic patients Demographic variables.

Demographic variables		Post-test level of knowledge score				Total	Chi square test
		Moderate		Adequate			
		N	%	N	%		
Age	< 30 years	1	5.6%	17	94.4%	18	**χ2=12.09**
	31 -40 years	1	8.3%	11	91.7%	12	**p=0.03***
	41 -50 years	1	11.1%	8	88.9%	9	**DF= 5**
	51 -60 years	3	33.3%	6	66.7%	9	
	61 -70 years	3	42.8%	4	57.2%	7	
	>70 years	3	60.0%	2	40.0%	5	
Sex	Male	3	9.1%	30	91.9%	33	**χ2=5.45**
	Female	9	33.3%	18	66.7%	27	**p=0.02***
							DF= 1
Education	No formal education	5	50.0%	5	50.0%	10	**χ2=9.93**
	Primary	6	24.0%	19	76.0%	25	**p=0.02***
	Secondary	1	5.0%	19	95.0%	20	**DF= 3**
	Degree	0	0.0%	4	100.0%	5	
Occupation	Home maker	4	26.7%	11	73.3%	15	χ2=2.51
	Labourer	3	17.6%	14	82.4%	17	p=0.47
	Business	2	33.3%	4	66.7%	6	DF= 4
	Government	1	50.0%	1	50.0%	2	
	Others	2	10.0%	18	90.0%	20	
Income	<Rs. 5000	8	30.8%	18	69.2%	26	χ2=6.88
	Rs.5000 - 10000	1	4.0%	24	96.0%	25	p=0.02
	>Rs.10000	3	33.3%	6	66.7%	9	DF= 2

** significant at P ≤0.05*

Above table shows the association between post-test level of knowledge score and Demographic variables. Younger age group of patients, male patients and more educated patients are gained more score than other patients. Statistical significance was calculated using chi square test.

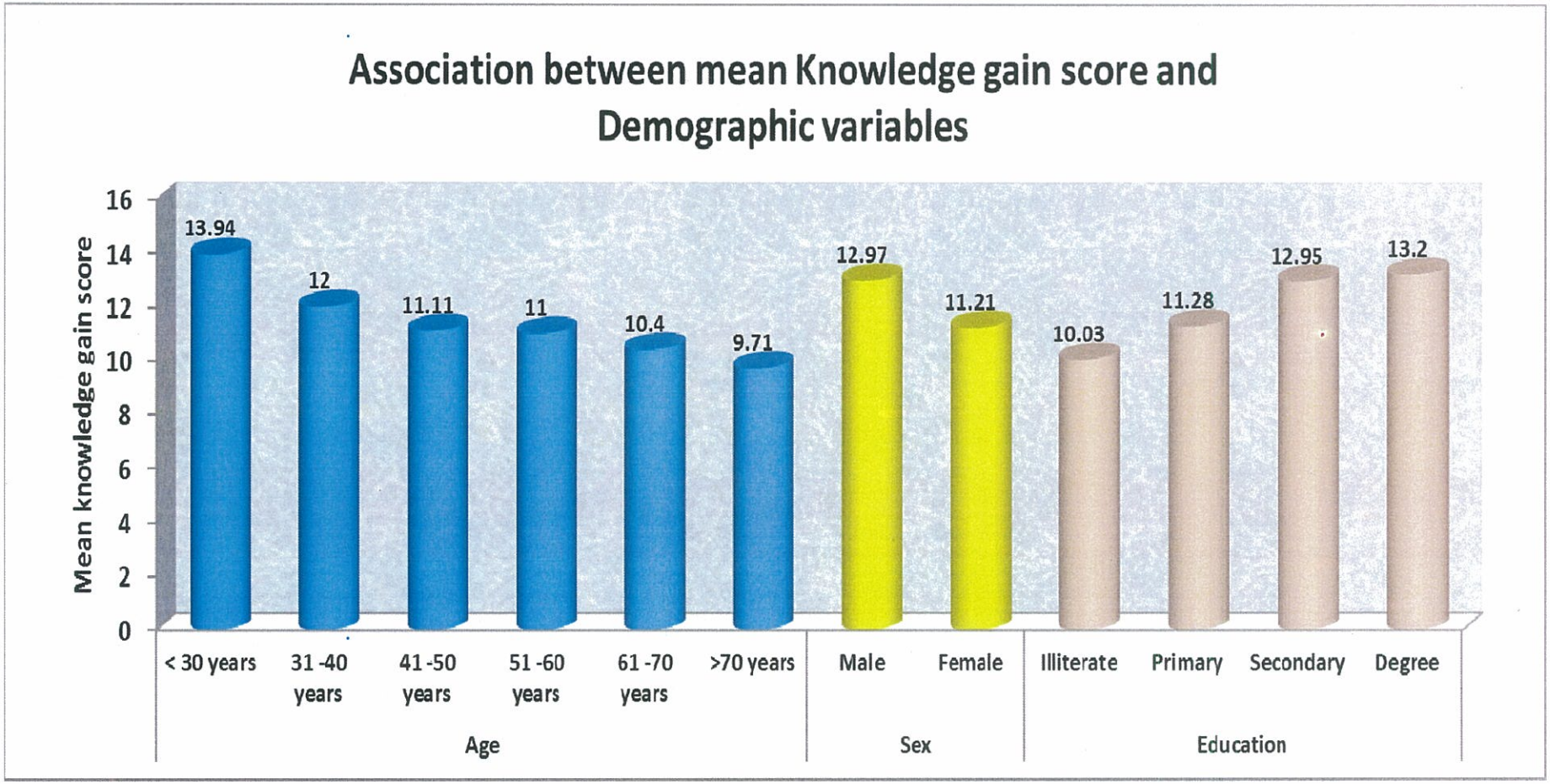


FIG.4.12. *Association between post- test level of knowledge score and patients demographic variables.*

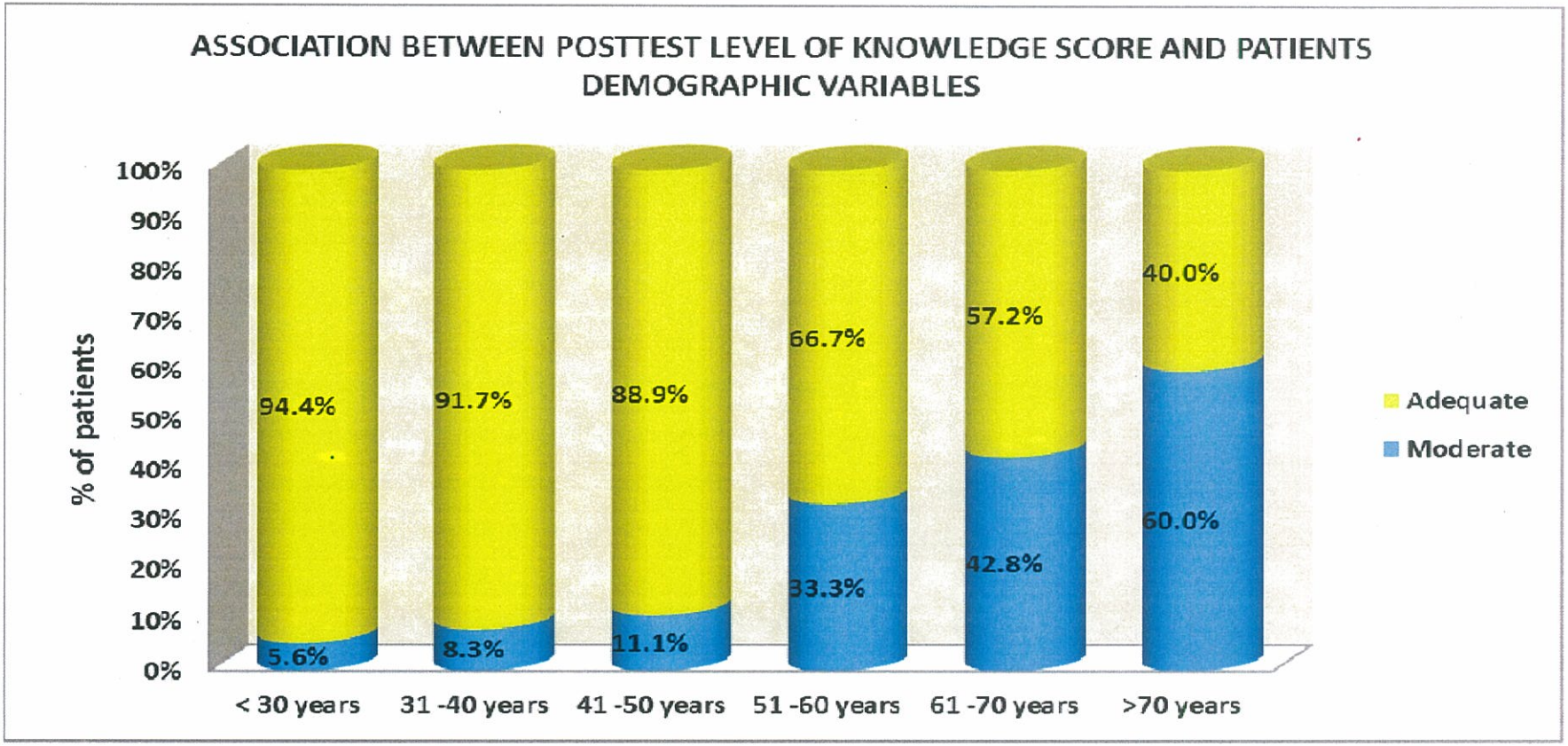


Fig 4.13 :Association between post-test level of knowledge score and age of patients.

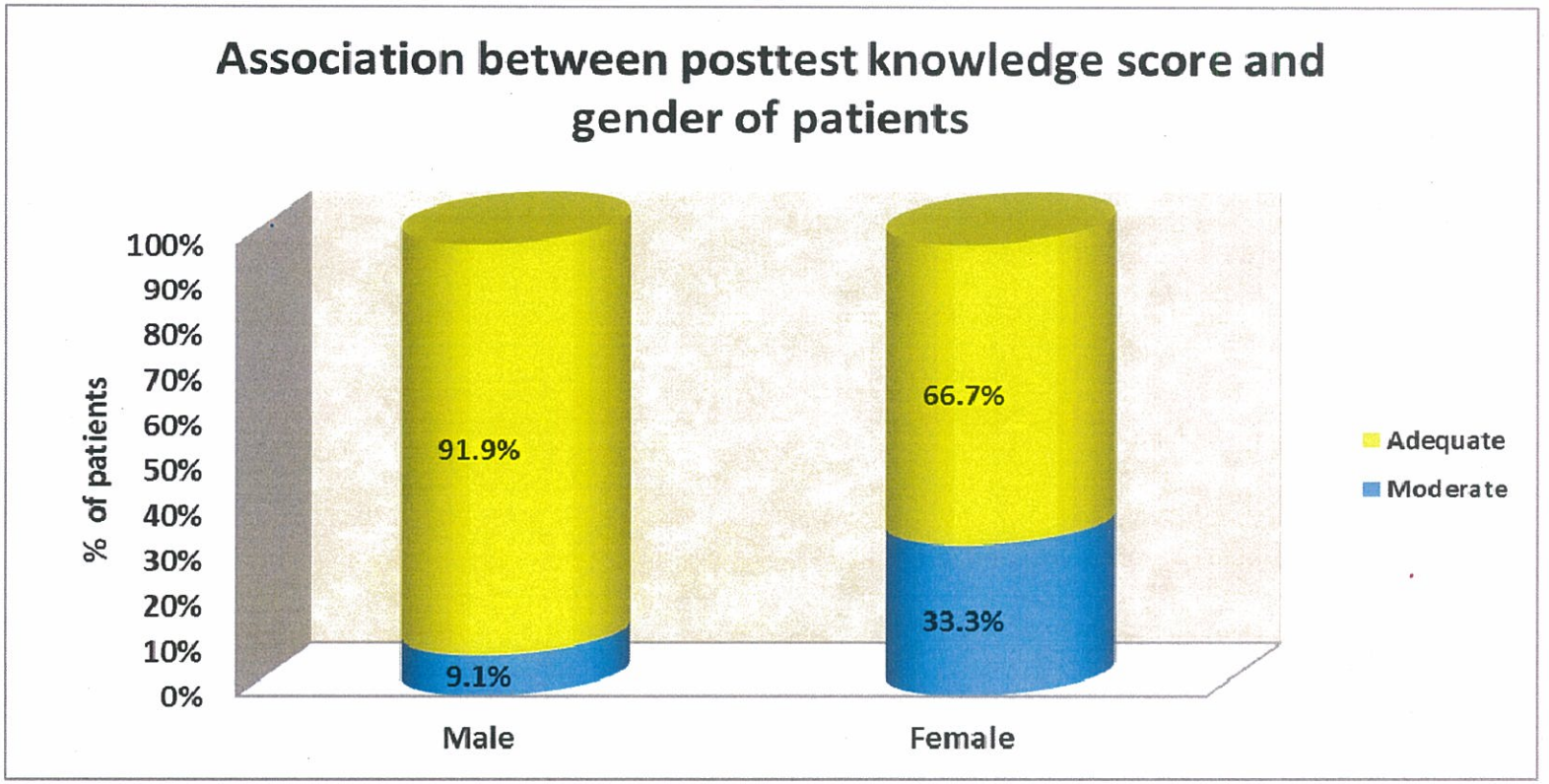


Fig4. 14 Association between post-test knowledge score and gender of patients

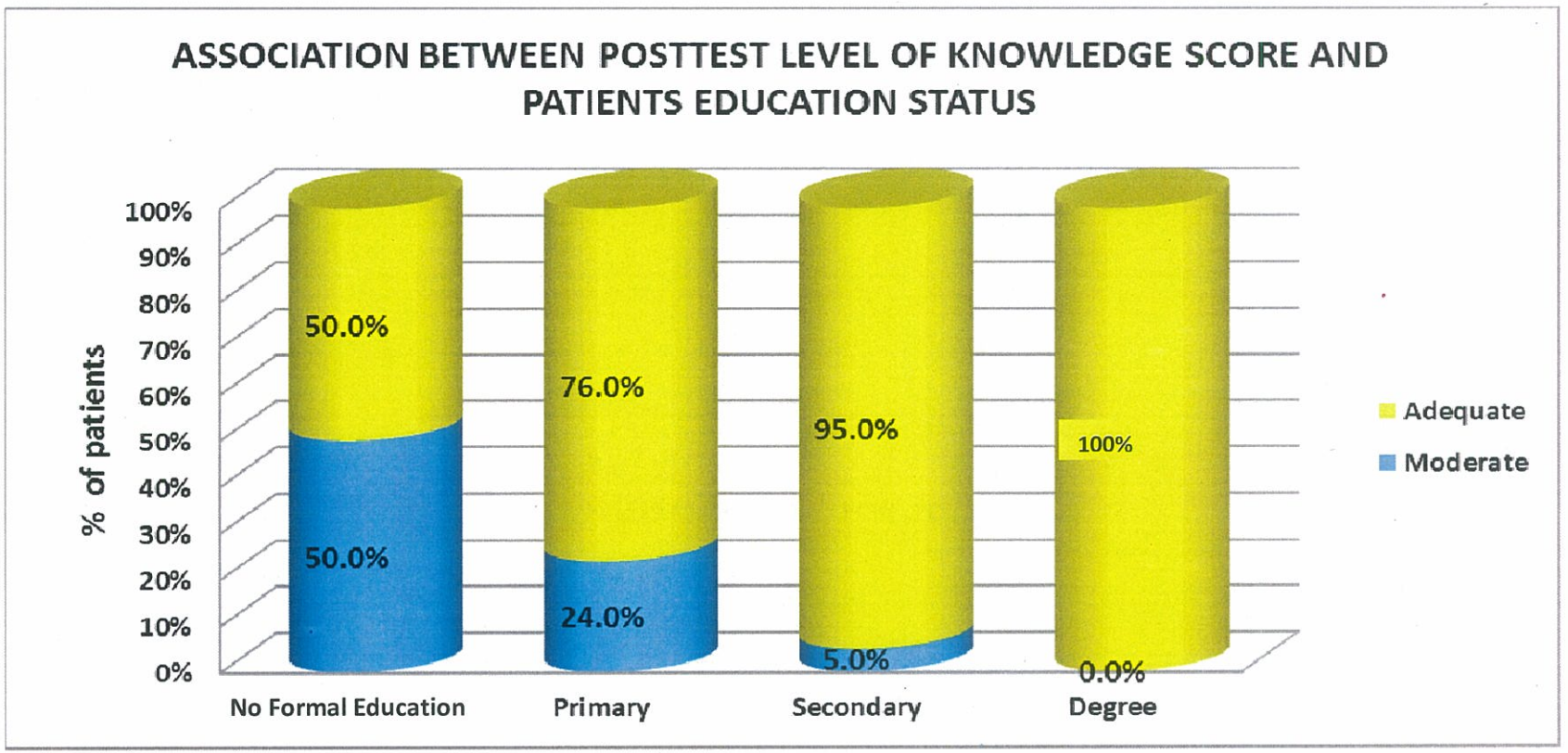


Fig.4.15:Association between posttest knowledge score and patient education status

SUMMARY OF THE RESULTS

CHAPTER V

SUMMERY OF STUDY FINDINGS

The present study was determine the effectiveness of structured teaching programme regarding prevention of complication among immobilized orthopaedic patients and to assess knowledge of the patients.

5.1 Based on demographic characteristic of the subjects.

- Majority 18 (30%) of the respondents were from the age group of <30 years, 5 (8.3%) were in the age of > 70 years.
- Based on the gender 33 (55 %)of the respondents were males, 27(45%) were females.
- Majority 25(41.7%) of the respondents were finished primary school education, 5(8.3) degree holders.
- Most of the respondents 20(33.3%)were other jobs (private workers)2 (3.3%) were government jobs.
- Most of the respondents 26 (43.3%) had their monthly income <5000, 9(15%) were >10,000.

5.2Based on the knowledge scores of immobilized orthopaedic patients before and after structured teaching programme.

- With regard to the pre-test level of knowledge score regarding prevention of selected complications among immobilized orthopedic patients, before administration of Structured Teaching Programme, 88.3% of the orthopaedic clients are having inadequate knowledge score, 11.7% of them are having moderate knowledge score and none of them are having adequate knowledge score.
- Domain-wise pre-test percentage of knowledge score. Pre-test percentage of knowledge score regarding prevention of selected complications among immobilized orthopaedic patients shows

that, they are having more score in **General information** (45.0%) and minimum score in **Hypostatic pneumonia** and its prevention (35.5%). Overall they are having 40.4% of score.

- Regarding post-test level of knowledge score regarding prevention of selected complications among immobilized orthopedic patients, after administration of Structured Teaching Programme. In post-test, none of the patients are having inadequate knowledge score, 20.0% of them are having moderate knowledge score and 80.0% of them are having adequate knowledge score.
- Domain wise post-test percentage of knowledge score regarding prevention of selected complications among immobilized orthopaedic patients shows that, they are having more score in General information (83.6%) and minimum score in Hypostatic pneumonia and its prevention (77.5%) Overall they are having 80.1% of score.

5.3 Based on comparison of mean scores between pre-test and post-test knowledge scores of immobilized orthopaedic patients regarding prevention of selected complications.

- Considering **General information** aspects, in pretest, orthopedic patients are having 2.25 score where as in post-test they are having 4.18 score, so the difference is 1.93. This difference between pretest and post-test is large and it is statistically significant.
- Considering **Pressure ulcer and its prevention** aspects, in pre-test, orthopedic patients are having 3.10 score where as in post-test they are having 5.55score, so the difference is 2.45. This difference between pre-test and post-test is large and it is statistically significant.
- Considering **Hypostatic pneumonia and its prevention** aspects, in pre-test, orthopedic patients are having 3.55 score where as in post-test they

are having 7.75score, so the difference is 4.20. This difference between pre-test and post-test is large and it is statistically significant.

- Considering **Constipation and its prevention** aspects, in pre-test, orthopaedic patients are having 3.22 score where as in post-test they are having 6.53score, so the difference is 3.31. This difference between pre-test and post-test is large and it is statistically significant.
- Considering **Overall**, in pre-test, orthopedic patients are having 12.12 score where as in post-test they are having 24.02 score , so the difference is 11.90. This difference between pre-test and post-test is large and it is statistically significant.
- The difference between pre-test and post-test score is large and it is statistically significant.

5.4: Based on effectiveness of structured teaching programme regarding prevention of selected complications among immobilized orthopaedic patients.

- On an average, orthopedic patients are gained 39.7% of knowledge score after administration of STP. Differences between pre-test and post-test score wereanalyzed using proportion with 95% Confidence interval and mean difference with 95% confidence interval. This 45.6% knowledge gain shows the effectiveness of STP.

5.5: Based on association between post-test knowledge scores with selected demographic variables

- The study showed that the association between the post-test level of knowledge score among immobilized orthopaedic patients and their demographic variables like younger age group of patients, male patients and more educated patients are gained more score than other patients. Statistical significance was calculated using chi square test.

DISCUSSION

CHAPTER - VI

DISCUSSION

This chapter deals with the discussion of the results of the data analyzed based on the objectives of the study and hypothesis. The purpose of the study is to evaluate the effectiveness of structured teaching programme regarding prevention of complication among immobilized orthopaedic patients in Rajiv Gandhi Government General Hospital, Chennai".

FINDINGS BASED ON OBJECTIVES

Objective-1: To assess the knowledge regarding prevention of selected complications among immobilized orthopaedic patients.

- With regard to the pre-test level of knowledge score regarding prevention of selected complications among immobilized orthopedic patients, before administration of Structured Teaching Programme, 88.3% of the orthopaedic clients are having inadequate knowledge score, 11.7% of them are having moderate knowledge score and none of them are having adequate knowledge score.
- Domain-wise pre-test percentage of knowledge score. Pre-test percentage of knowledge score regarding prevention of selected complications among immobilized orthopaedic patients shows that, they are having more score in **General information** (45.0%) and minimum score in **Hypostatic pneumonia** and its prevention (35.5%). Overall they are having 40.4% of score.

- Regarding post-test level of knowledge score regarding prevention of selected complications among immobilized orthopedic patients, after administration of Structured Teaching Programme. In post-test, none of the patients are having inadequate knowledge score, 20.0% of them are having moderate

knowledge score and 80.0% of them are having adequate knowledge score.

- Domain wise post-test percentage of knowledge score regarding prevention of selected complications among immobilized orthopaedic patients shows that, they are having more score in General information (83.6%) and minimum score in Hypostatic pneumonia and its prevention (77.5%) Overall they are having 80.1% of score.

Objective 2: To evaluate the effectiveness of the structured teaching programme regarding prevention of selected complications among immobilized orthopedic patients.

- Considering **General information** aspects, in pretest, orthopedic patients are having 2.25 score where as in post-test they are having 4.18 score, so the difference is 1.93. This difference between pretest and post-test is large and it is statistically significant.
- Considering **Pressure ulcer and its prevention** aspects, in pre-test, orthopedic patients are having 3.10 score where as in post-test they are having 5.55score, so the difference is 2.45. This difference between pre-test and post-test is large and it is statistically significant.
- Considering **Hypostatic pneumonia and its prevention** aspects, in pre-test, orthopedic patients are having 3.55 score where as in post-test they are having 7.75score, so the difference is 4.20. This difference between pre-test and post-test is large and it is statistically significant.
- Considering **Constipation and its prevention** aspects, in pre-test, orthopaedic patients are having 3.22 score where as in post-test they are having 6.53score, so the difference is 3.31. This difference between pre-test and post-test is large and it is statistically significant.
- Considering **Overall**, in pre-test, orthopedic patients are having 12.12 score where as in post-test they are having 24.02 score , so the

difference is 11.90. This difference between pre-test and post-test is large and it is statistically significant.

- On an average, orthopedic patients are gained 39.7% of knowledge score after administration of STP. Differences between pre-test and post-test score wereanalyzed using proportion with 95% Confidence interval and mean difference with 95% confidence interval. This 45.6% knowledge gain shows the effectiveness of STP.

H_1: There will be significant increase in knowledge regarding prevention of selected complications among immobilized orthopaedic patients subjected to STP.

The difference between pre-test and post-test score is large and it is statistically significant. So the hypothesis I was accepted.

The above similar findings was seen in **Jamini Kurian (2009)**conducted a pre-experimental study Over 55 care givers of immobilized patient using stratified random samplingwere taken. The purposes of the study to determine the effectiveness of structured teaching program on prevention of pressure sore .The study adopted one group pre- testpost- test design. The data was collected by using structured interview schedule and analyzed. The data showed that, the post-test knowledge is significantly higher than pre-test knowledge. The investigator concluded that the structured teaching program was a good method for conveying information to the care givers and was very effective.

Objective -3: To determine the association between post-test knowledge score and selected demographic variables.

- The study showed that the association between the post-test level of knowledge score among immobilized orthopaedic patients and their demographic variables like younger age group of patients, male patients and more educated patients are gained more score than other patients. Statistical significance was calculated using chi square test.

This findings was supported by the study conducted by **Kirsi Johansson, Sannasalantera, Jouko Katajisto, Helena Lieno-Kilpi (2010)** to assess patients knowledge regarding orthopaedic care. The sample consisted of 146 orthopaedic patients (response rate 81%) and 56 nurses (response rate 67%) on three orthopaedic wards in a Finnish University Hospital in 2009. Data were collected using two parallel, purpose-designed, mainly structured questionnaires. Personal discussions, written material and demonstration / practice, were the most commonly used educational methods, while videos and PCs were seldom used. Statistical significant difference was observed in participants. This was significantly associated with age, sex and education

H_2: There will be significant association between post-test knowledge scores and selected demographic variables.

The selected demographic variables were dependent on the post-test knowledge. So the hypothesis II was accepted.

IMPLICATIONS, CONCLUSION & RECOMMENDATION

CHAPTER-VII

IMPLICATIONS, CONCLUSION AND RECOMMENDATIONS

This chapter deals with limitations, implications and recommendations of the study.The present study evaluate the effectiveness of structured teaching programme regarding prevention of selected complications among immobilized orthopaedic patients in Rajiv Gandhi Government General Hospital, Chennai"

7.1 Implications of the study

The findings of the study have implication in the field of nursing practice, nursing education, nursing administration and nursing research.

Nursing practice

- It helps the health care professional to gain an insight in to the problems faced by orthopaedic patients.
- Nursing professionals can provided care to the immobilized patients in preventing the complication
- Nursing professionals can motivate the significant others and family regarding care of immobilized orthopaedic patients.

Nursing education

- As a nurse educator, there are abundant opportunities for nursing professional to educate the student regarding prevention of complications among immobilized orthopaedic patients.
- The study can be extended for educating the family members or the care givers as it is a long term complication.
- This study stresses the need for in-service education for the nursing professional in order to prevent such complications.

Nursing Administration

- The nursing administration can take part in developing protocols, standing orders changing of position of immobilized patients, deep breathing exercise.
- The nursing administration can appoint nursing professionals based on the in-service education obtained especially in the care of orthopaedic patients.
- The nurse administrators should explore and encourage innovative ideas in the preparation of an appropriate teaching material. She should organize sufficient manpower money and material for disseminating information regarding care of immobilized patients.

Nursing Research

- This study helps to nurse researcher to conduct researches on other complications of immobility.
- Plan for mandatory in- service education for the post diploma courses on orthopaedic complications.
- Research on college students regarding trauma due to road traffic accidents and school health programme on safety rules to avoid accident.

7.3.Recommendations

On the basis of the findings of the study following recommendation have been made:

- A similar study can be replicated on a large sample to generalize the findings.
- An experimental study can be undertaken with a control group for effective comparison of the result.
- A study can be conducted by including additional demographic variables.

- A comparativestudy can be conducted between rural and urban settings or between rich and poor socio economic status people or between men and woman.
- Manuals, information booklets and self-instruction module may be developed in areas of prevention of complications.
- A study can be carried out to evaluate the efficiency of various teaching strategies like pamphlets, leaflets and computer- assisted instruction on prevention of complication.

7.2 Limitations of the study

- The researcher could not generalize the study findings at the sample size is small and the findings must be interpreted with caution.
- The study did not assess the attitude and practice of immobilized orthopaedic patients. Only a single domain that is knowledge is considered in the present study.

Conclusion

The following conclusions were drawn from the study.

- The knowledge of immobilized orthopaedic clients regarding prevention of selected complications had improved significantly after they had undergone STP.
- The structured teaching programme found to be effective in improving the knowledge of immobilized orthopaedic patients regarding prevention of selected complications.
- The study proved that there was an association between post-test level of knowledge score with immobilized orthopaedic clients demographic variables. More educated, male patients and the age group of below 30 years gained more knowledge than others after **structured teaching programme.**

REFERENCES

REFERENCES

1. Editor choice http;// www.google.co.ins, *Market Research: Hip and Knee Orthopaedic Surgical Implants Market Report* (2016).

2. *Bulletin of the world health organization www.scielap.org/scielo,vol81* no.9 genebia sep:2016.

3. Rangreji D.S. *Modern trends in Orthopedic Nursing. Nursing Journal of India.* 1981; 70 (10): 222.

4. *Injury prevention. Health for the millions.* 2005; Dec. 12-15.

5. Sharon M.K& Collier J.C. *Medical -Surgical Nursing. 3rd. ed.* Missouri. Mosby year book. 1992:170.

6. Dr. Kumar Sai & Dr. Chittapur Dhanaraj. *Road safety: A global public health concern. Health for the millions* 2004; May 53-56.

7. Fathia Ahmed Mersal, Nahed Ahmed Mersal, "*American journal of Nursing research" Effect of educational guidelines for prevention of immobilization complications on caregivers, published online March* 21,2017.

8. S.PoudyalM.Neupane, M.Lopchan "*Journal of Chitwan medical college"-2014 available from website ; www.jumc.cmc.edu.np.*

9. Mary Sockolowski – *Kent State University Studies related to constipation among orthopaedic clients* http://www.google.co.in /#hl=en&tbo=d &s client

10. http://www.healio.com/orthopaedics/journals/ortho/%7B54429C01-COCA - 4D8F - AB20 – 84463 B4B 1402 % 7D / update -on-*treatment-options-for-constipation.*

11. Erzurum Health School of Ataturk University Erzulam, Turkey, http;//www.ncbi.nlm.nih.gov/ PMID : 17462043.

12. http;//www.ncbi.nlm.nih.gov/Pubmed PMID : 22886331.

13. Department of Nursing science Berlin Germany, 2010 April 22(2)1526. http://www.google.in

14. Nettina Sandra (2001) *Lippincott Manual of Nursing practice 7th edition.*

15.. Whitehouse MR, Berstock JR, Musculoskeletal Research Unit, School of Clinical Sciences, Southmead Hospital, *BMC Med.* (2017) Mar 27,

16. Lee Y, Yang N (2015) *Using Big Data to Develop the Epidemiology of Orthopedic Trauma.*(2015)

17. Mir Sadat-Ali, Abdallah S Alomran, QuamerAzam, Hasan N Al-Sayed (2015)

18. Steven M. Kurtz Thr *Journal of Bone & Joint surgery* (2014),

19. Bruse F. C, Gomberg,Gary S Guren,Wade R. Smith, Marryann Spott. *Outcomes in acute orthopaedic trauma. Science direct- injury* 1999;30(6):431-7

20. Nilambar Jha, D.K. Srinivasa, Gautam Roy, S. Jagdish "*Epidemiological study of road traffic accident cases*": a study from south India, Deptt. of PSM and Surgery,March-2007.

21. Chandra SheharAgarval, "*Epidemiological Study of Road Traffic Accident. Regional Health Forum WHO South –East Asia region*"2004 jan:8(1).

22. Mark R, Daniel P,O'Connor. "*The incidence of Fractures and Dislocations referred for Orthopaedic Services in a capital population*". The journal of Bone and Joint Surgery 2004 Jul;86(1):290-97

23. A. Malarvizhi, V. Hemavathy, Assistant professors, Department of Medical Surgical Nursing, Sree Balaji College of Nursing, Bharath University, India(.2015)

24. Emmanuel A (2011) *Current Management, Strategies and Therapeutic Targetsin Chronic Constipation*. The Adv, Gastroenterol 4(1): 37–48.

25. Joost J. van Middendorp, 1,2 Ben Goss,3 Susan Urquhart, 4 Sridhar Atresh,4 Richard P. Williams,1,3 and Michael Schuetz 1,2, Trauma Service, Princess Alexandra Hospital, Brisbane, Queensland, Australia(2010).

26. Baumgarten M, Margoils DJ, Orwig,DL, Shardell MD, Hawkes WG Langenbergp, et.al. *Pressure ulcers in elderly patients with hip fracture across the continuum of care.* (2009).

27. Morad N, Nelson NP, Merrick J, Davidson PW, Carmeli E, *Prevalence and risk factors of constipation in adults with intellectual care centers in Israel.* Devel Disab 2007 Nov ;28 (6):580-6

28. Pecina M, Smoijanovic T, Cicvara-Pecina T, Tomak-Rocksandic S. Ostioporosis in the Elderly. Arhiv ZaHijijenu Rada 1 Toksikologiju 2007 Mar ;58(1):41-7.

29. Chaukan VS, Goel S, Kumar P, Srivastave S, Sukal VK, "*The prevalence of pressure ulcers in hospitalized patients in a university hospital in India .Journal of wound care*" 2005 Jan;14(1):36.

30. Lindgren M, Unosson M, Fredrikson M, Ex Ac. "*Immobility- a major risk factor for development of pressure among adult hospitalized patients*". Scavndavian Journal of Caring Sciences 2004 Mar;18 (1):57-64.

31. Masotti L1, Ceccarelli E, Cappelli R, Barabesi L, Guerrini M,Forconi S. *Institute of Internal Medicine and Geriatrics, University of Siena, Italy.* images@unisi.it Aging (Milano). 2000 Feb;12(1):35-41.

32. Karoon Agrawal, Neha Chauhan, Department of Burns, *Plastic and Maxillofacial Surgery, VM Medical College and Safdarjang Hospital*, New Delhi, India, Date of Web Publication 25-Sep-2012.

33. A. Lichterfeld Email the author A. Lichterfeld, N. Lahmann, U. Blume-Peytavi, J. Kottner, Plum X Metrics, DOI: http:// dx.doi. org/10.1016/ j.ijnurstu.2016.01.003.

34. Ami Hommal, Karin B Bjorkelune, Karl-GoranThorngren M, Kerstin Ulander. "*A study of a path way to reduse pressure ulcers for patients with a hip feacture. Journal of Orthopaedic nursing*" 2007 Aug 11(3-4)

35. Carina Baath, Marie- Louise Hall- Lord, Johansson and Bodil Wilde Larsson. Nursing assessment documentation and care of hip patients' skin. Journal of Orthopaedic nursing 2007 Feb;11(1):14-41.

36. Rosmery Masterson. *A descriptive survey of the knowledge of female Orthopaedic patients in Ireland about the effects, the risk factors and the prevention of Osteoporosis. Journal of Orthopaedic nursing* 2006 May ;10(2)95-105.

37. Madhurai Reddi, Supeep S. Gill, Paula A, Rochan. *Preventing Pressure Ulcers: A Systematic Review*, JAMA 2006 Mar; (8) 974-984s

38. Kerstin Ulander, Kara-l Goran Thorngren, Ammi Hommel. *Preventing patients with a hip fracture from developing pressure ulcers.* Journal of Orthopaedic nursing 2006 Mar ;26(8):97-98.

39. Kamal HK, Iqbal MA, Mogallapu R, Mass D, Hoffman RG, *Time to ambulation after hip fracture surgery: relation to hospitalization outcomes*. Journal of Gerontology 2003 Nov;58(11):1042-5.

40. Kery Houghton, Michael Peregrina. Donna Gillis, Justine Herden, *A smile trial of the nursing care of patients immobilized with a Thomas splint. Journal of Orthdopadeic nursing* 2003 May ;(74):201-4.

41. Desouza Sheila Melba.(2007) *Department of Adult Health and Critical Care, College of Nursing, Sultan Qaboos University*, Muscat, Oman.

42. Ouellet LL, Turner TR, Pond S, McLaughlin H, Knorr S. *Dietary fiber and laxative in post orthopaedic patiens. Clinical Nursing Report.*1996 Nov;5(4):428-40.

43. Ross DG. *Altered bowel elimination patterns among hospitalized elderly and middle- aged persons: quantitative results.* Orthopaedic nursing 1995Feb:14(1) 25-31.

44. Thomas, Karen M., Sethares. Kristen A. *An Investigation of the effects of preoperative Interdisciplinary Patient Education on Understanding Postoperative Expectations Following a Total Joint Arthoplasty. Orthopaedic Nursing* 2008 Nov ;27:374-81.

45. Rankinen S, Salantera S, Heikkinen K, Kljonan A, Virtanen H et al. *Expectations and received knowledge by surgical patients.* International Journal for quality in health care 2007 Apr;19(2):113-9.

46. Anthony DelaneyEmail author, Hilary Gray, Kevin B Laupland and Danny J Zuege "*Kinetic bed therapy to prevent nosocomial pneumonia in mechanically ventilated patients: a systematic review and meta-analysis*"(2006).

47. Skalska A, Grodzicki T. *Pressure ulcer prevention- evaluation of awareness in families of patients at risk.* Przeglad Lekarski 2005 Sep ;62(12):1393-7.

48. Roopa Lakshmi MR." *A study of determine the effectiveness of planned teaching programme on early education of selected malignancies of females among females among high school teachers of selected high schools of Bangalore south 2004*". Un published master of nursing dissertation. Rajive Gandhi University of Health sciences, Bangalore, India.

49. Kirsi Johansson, Sanna Salantera, JoukoKatajisto, Helena Leino-Kilpi. *Patients education in Orthopaedic nursing. Journal of Orthopaedic nursing* 2002 May; 6(4):220.

50. Lewis,Cindy;Gunta, Kathy; Wong, Dianne. *Patients knowledge behavior and satisfaction with the use of preoperative* DVD. Orthopaedic Nursing 2002 Nov 21 (6):41-43, 45-49.

51. Schmelzer.M Effectiveness of Wheat Bran in preventing complications of hospitalized orthopaedic surgery patients, http://www.ncbi .nlm.nih.gov/Pubmed : 2177180.

52. *Joint contracture following prolonged stay in the intensive care unit* http://www.ncbi.nlm.nih.gov/PMC/articles/PMC 2263098.

53. Potter Partica and Pery Griffin Anne(2007) "*Basic Nursing Essential for Practices*" Seventh edition, Phiadelphia: Mosby Co.,

54. PolitF.D.andHungler BPN (2007) *Nursing Research an Methods*, Piladelphia JB Lippincott company.(Ltd)

55. Brunner & Siddhartha's text book of *Medical Surgical Nursing 10th edition page no 165, Lippincott Williams and Wilkins* – Suzanne C Smeltzer and Brenda Bare.

APPENDICES

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI 600 003

EC Reg.No.ECR/270/Inst./TN/2013
Telephone No.044 25305301
Fax: 011 25363970

CERTIFICATE OF APPROVAL

To
K.Jeya Chandra
I Year M.Sc.(Nursing) Student
College of Nursing
Madras Medical College
Chennai 600 003

Dear K.Jeya Chandra,

The Institutional Ethics Committee has considered your request and approved your study titled **"A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME REGARDING PREVENTION OF SELECTED COMPLICATIONS AMONG IMMOBILIZED ORTHOPAEDIC PATIENTS IN RAJIV GANDHI GOVERNMENT GENERAL HOSPITAL, CHENNAI" NO. 02072016.**

The following members of Ethics Committee were present in the meeting hold on **12.07.2016** conducted at Madras Medical College, Chennai 3

1.Prof. C. Rajendran, MD.	Chairperson
2.Prof. Isaac Christian Moses,MD.,Dean(FAC)MMC ,Ch-3	Deputy Chairperson
3.Prof. Sudha Seshayyan, MD., Vice Principal, MMC.Ch- 3.	Member Secretary
4.Prof. B.Vasanthi,MD.,Prof of Pharmacology, MMC,	Member
5.Prof. P.Raghumani.MS., Professor of Surgery, Inst. of surgery	Member
6.Prof. Md Ali, MD.,DM., Prof & HOD of MGE, MMC,Ch-3.	Member
7.Prof. Baby Vasumathi.,MD, Director. Inst. of O&G,	Member
8.Prof. K.Ramadevi.,MD, Director, Inst of Bio-Chemistry, MMC,	Member
9.Prof. R.Padmavathy,MD., Professor, Inst.of Pathology, MMC,Ch	Member
10.Prof.S.Tito, MD, Director, Inst.of Inter Med, Ch-3.	Member
11.Tmt.J.Rajalakshmi, Junior Administrative Officer,MMC,Ch	Layperson
12.Thiru.S.Govindasamy., B.A.B.L., High Court, Chennai-1	Lawyer
13.Tmt.ArnoldSaulina, MA., MSW.,	Social Scientist

We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

Member Secretary – Ethics Committee

MEMBER SECRETARY
INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE
CHENNAI-600 003

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool constructed by K. Jeya Chandra, M.Sc., (Nursing) II year, College of Nursing, Madras Medical College which is to be used in her study titled, **"A study to assess the effectiveness of structured teaching programme regarding prevention of selected complications among immobilized orthopedic patients in Rajiv Gandhi Government General Hospital Chennai"** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

2/8/17

Signature with seal

Prof. N. DEEN M. ISMAIL, M.S.(Orth).,D.Orth.,
Director & Professor,
Institute of Orthopaedics & Traumatology,
Madras Medical College & RGGGH,
Chennai-600 003

Name:

Designation:

Place:

Date:

Seal:

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by K. Jeya Chandra, M.Sc., (Nursing) II year, College of Nursing, Madras Medical College which is to be used in her study titled, **"A Study to Assess the Effectiveness of structured teaching programme regarding prevention of selected complications among immobilized orthopedic patients in Rajiv Gandhi Government General Hospital Chennai"** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

Jaslineo

Signature with seal

Apollo College of Nursing
Apollo College of Nursing
Chennai - 600 095

Name: J. JASLINA GNANARANI

Designation: Reader

College: Apollo College of Nursing

Place: Chennai

Date: 09/11/2016

Apollo College of Nursing
Apollo College of Nursing
Chennai - 600 095

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by K. Jeya Chandra, M.Sc., (Nursing) II year, College of Nursing, Madras Medical College which is to be used in her study titled, **"A Study to Assess the Effectiveness of structured teaching programme regarding prevention of selected complications among immobilized orthopedic patients in Rajiv Gandhi Government General Hospital Chennai"** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

G. kanchana

Signature with seal

Name: G. KANCHANA

Designation: READER

College: APOLLO COLLEGE OF NURSING

Place: CHENNAI

Date: 9/11/16.

Lr. no. 36 / CON, MMC / 2016. Dt. 22.11.2016

REQUISITION LETTER

From

K.Jeya Chandra
M.Sc. (N) – II year student,
College of Nursing,
Madras Medical College,Chennai -03.

To

The Director,
Institute of Orthopaedics & Traumatology,
Rajiv Gandhi Government General Hospital,
Madras Medical College, Chennai – 03.

Through

Principal,
College of Nursing, Madras Medical College, Chennai- 03.

Respected Sir,

Sub: College of Nursing, Madras Medical College, M.Sc. (N) II year student – Dissertation – Permission for Data Collection in Orthopaedic Ward Requested – Regarding.

******

I am studying M.Sc. Nursing II year at College of Nursing, Madras Medical College, Chennai as part of academic requirement, I have to conduct a study, and the topic is **"a study to evaluate the effectiveness of structured teaching programme regarding prevention of selected complications among immobilized orthopaedic patients in Rajiv Gandhi Government General Hospital, Chennai"** which is a approved by Institutional Ethics Committee.

I request you sir, permit me to conduct the above study at the Orthopaedic ward, Institute of Orthopaedic and Traumatology, Rajiv Gandhi Government General Hospital, Chennai, for one month from 21/11/2016 to 18/12/2016 between 8 am and 4 pm except on Government Holidays.

I assure you sir that, my study procedure will not disturb the ward routine activities.

Thanking You,

Yours sincerely,

K. Jeya Chandra 22/11/16.

(K. Jeya Chandra)

Encl : Copy of Institutional Ethics Committee Approval Letter.

22/11/16

DR. V. KUMARI, M.Sc(N).,Ph.D.,
PRINCIPAL
COLLEGE OF NURSING
MADRAS MEDICAL COLLEGE
CHENNAI - 600 003.

Permitted

23/11/16

Prof. N. DEEN M. ISMAIL, M.S.(Orth).,D.Orth.,
Director & Professor,
Institute of Orthopaedics & Traumatology,
Madras Medical College & RGGGH,
Chennai-600 003

Please give an update every month at RAW 107
Hello Dr. Sravanan

INVESTIGATOR NAME	**:**	**K. JEYA CHANDRA**
PROGRAMME	**:**	**M.SC (N) II YEAR**
SUBJECT	**:**	**MEDICAL SURGICAL NURSING**
TOPIC	**:**	**PREVENTION OF SELECTED COMPLICATIONS OF IMMOBILIZATION**
VENUE	**:**	**ORTHOPAEDIC WARDS**
PARTICIPANTS	**:**	**IMMOBILIZED PATIENTS OF RGGGH, CHENNAI- 03.**
DURATION	**:**	**45 Mins**
METHOD OF TEACHING	**:**	**LECTURE CUM DISCUSSION**
A.V AIDS	**:**	**FLASH CARDS, PPT.**

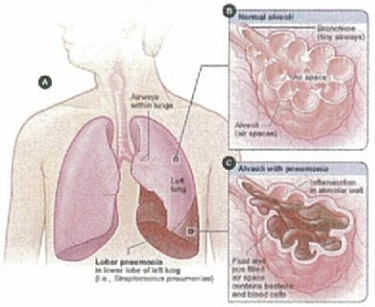
CENTRAL OBJECTIVE

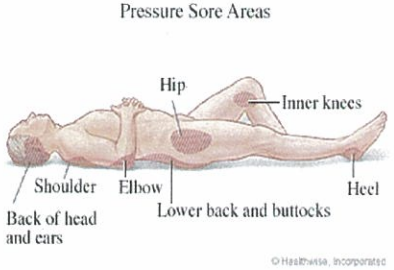
Help the clients to gain knowledge regarding prevention of selected complications among immobilized orthopaedic patients.

CONTRIBUTORY OBJECTIVES

- **define the term pressure sore**
- **explain the causes of pressure sore**
- **enumerate the anatomy and physiology of skin**
- **list down the functions of skin**
- **describe the stages of pressure ulcer**
- mention the development of pressure sore
- enumerate the preventive measures of pressure ulcer
- define the term hypostatic pneumonia
- list down the signs and symptoms of hypostatic pneumonia
- explain the anatomy and physiology of lungs and cycle of respiration
- mention the preventive measures of pneumonia
- eneumerate the steps of breathing exercises
- define the term constipation
- point out the causes of constipation
- describe the preventive measures of constipation
- mention the precautions for using bed pan

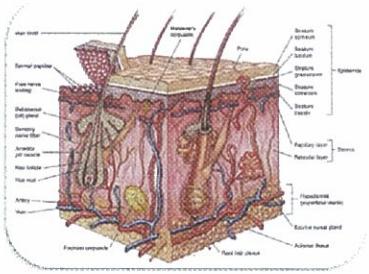
TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
		INTRODUCTION Mobility is a physiologic process that is taken for granted unless it is not or restricted in some way . The orthopedic patient population includes many who have immobility imposed on them either directly because of their condition or because of the treatment (ex)caste, traction, braces, and fracture hips and total joint on mobility .This can lead to various complication.			

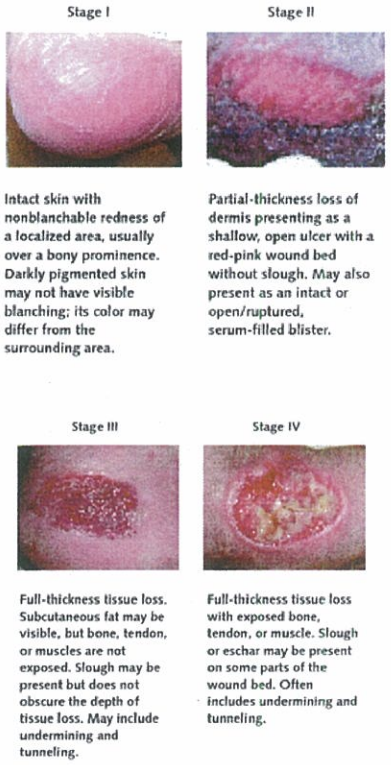
TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
		ANNOUNCES THE TOPIC There are various complication due to immobility but the selected complications are ❖ Pressure sore ❖ Hypostatic pneumonia ❖ Constipation		  	

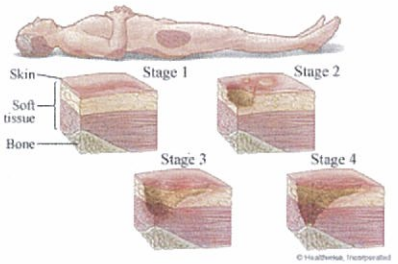
TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
1 min	define the term pressure sore	**PRESSURE SORE** **DEFINITION** Pressure sores are localized areasof tissue necrosis (tissue death) that develop when soft tissue is compressed between a bony prominence and an external surface or when pressure occurs. In combination with shearing force and /or friction . **SITES OF SKIN BREAKDOWN** The more frequent sites of skin breakdown are following, • Sacrum 16% • Ankles 3% • Heals 11% • Trochanter 7% • Scapulae 2%	Explaining	 	

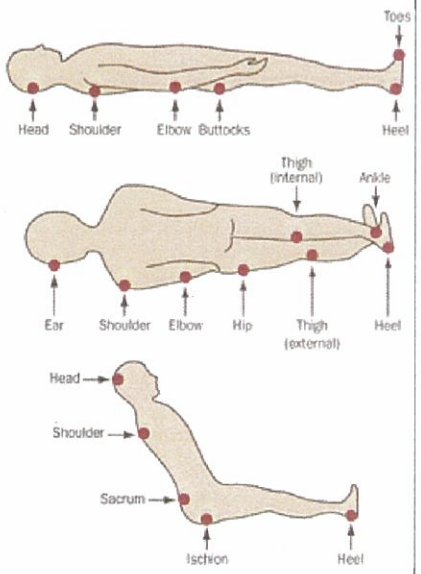
TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
3 min	explain the causes of pressure sore	**ETIOLOGY** ➢ **IMMOBILITY** When a person is immobile and inactive, pressure is exerted on the skin and subcutaneous tissue by objects on which the persons rests such as mattress,chair seat or cast. The development of pressure ulcer is directly related to the duration of immobility. ➢ **IMPAIRED SENSORY OR COGNITION** Patient with sensory loss, impaired level of consciousness or paralysis may not be aware of the discomfort associated with prolonged pressure on the skin. ➢ **DECREASED NUTRITIONAL STATUS** Nutritional deficiencies ,metabolic disorder, anaemia and decrease the blood oxygen carrying ability.	Teacher explains and clients listen		Why impaired sensory perception causes pressure sores?

TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
		ETIOLOGY ➢ **FRICTION AND SHEAR FORCES** Friction is resistance to movement that occurs when two surfaces are moved across shearing is created by the interplay of gravitation forces. ➢ **MOISTURE** Prolonged contact with moisture causes softening and breakdown of skin.			

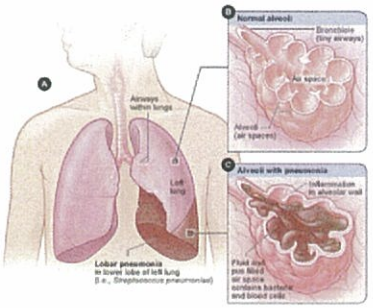
TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
3 min	enumerate the anatomy and physiology of skin	**ANATOMY AND PHYSIOLOGY** The human body surface area about 1.5- 2 m2 in adults. It contains glands, hair and nails. It consist of two layers ○ Epidermis ○ Dermis **EPIDERMIS** The several layers of epidermis are stratum corneum, stratum lucidum, stratum granulosum, germinative layer. **DERMIS** The dermis is tough and elastic composed of collagen fibers interlaced with elastic fibers. The structure in the dermis are, ▪ Blood vessels ▪ Lymph vessels ▪ Sensory nerve ending ▪ Sweat glands and their ducts ▪ Hair roots,hair follicles, and hairs, ▪ Arrectorespilorum ▪ Sebaceous glands **FUNCTION** It is one of the main protective organ of the body	Teacher explains the anatomy and physiology of skin		What are the layers of the skin?

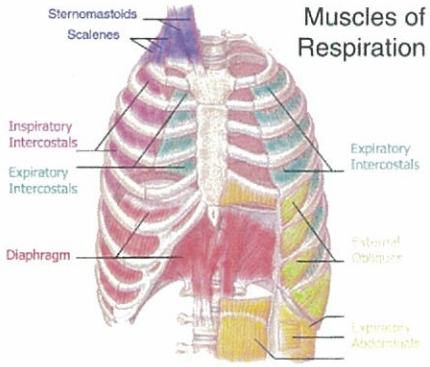
TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
2min 5min	list down the functions of skin describe the stages of pressure ulcer	**THE IMPORTANT FUNCTION OF THE SKIN** - Regulation of body temperature - Formation of vitamin D - Sensation - Absorption - Excretion **STAGES OF PRESSURE ULCER** **STAGE:I** Erthema (redness) that does not blanch when pressed. **STAGE:II** Skin loss in the epidermis and dermis. Ulcer is surrounded by broad ,irregular and painful redness area that is warmed than normal. **STAGE: III** Characterized by full thickness skin loss involving damage or necrosis of the dermis and subcutaneous tissue.			What are thestages of pressure sore?

TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
3 min	mention the development of pressure sore	**STAGE:IV** Penetrates bone, muscle or the joint. The ulcers is usually extensively infected and may appear black with exudation foul odour and purulent drainage. **DEVELOPMENT OF PRESSURE SORE** An area of erythema (redness) is the beginning of a pressureulcer. Erythema can occur within an hour or two days in a person with healthy skin and adequate circulation. ↓ Factors in addition to immobility that contribute to development of pressure sore are shearing forces, urine, sedation and poor nutrition. ↓ Shearing occur during patient slumps downwhile sitting in bed or in a chair or it can occur when taking a patient up in a bed.	explaining		

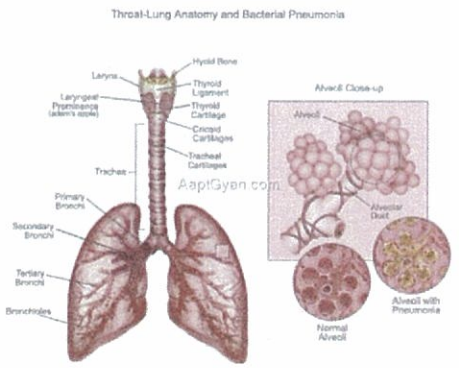
TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
3min	enumerate the preventive measures of pressure ulcer	**PREVENTION OF PRESSURE ULCER** ✓ The first step in prevention of pressure ulcers is to identify patient who are at risk for deloping pressure sore. ✓ Patient at least every two hours change the position(more often if redness persists) position patient so that they are not resting on pressure points of the skin. ✓ Teach the patient to shift their weight every 15 minutes. ✓ Keep bed linen dry,smooth,free of wrinkles. ✓ Gently clean the skin when soiled and at regular intervals using warm water and a mild cieansing agent. ✓ Avoid friction when moving patient to prevent damage to the uppermost layer of the skin moisturizers, lubricants, protective films, barriers, and dressing to reduce friction and shearing ✓ When the patient is in bed keep lowered to reduce shearing forces caused by sliding down in bed. ✓ Use special mattress or bed designed to reduce pressure such as egg water mattress,air mattress. ✓ Prevent shearing force to the feet by using pillows to prevent heal pressures.	explainin g		How often you should change the position?

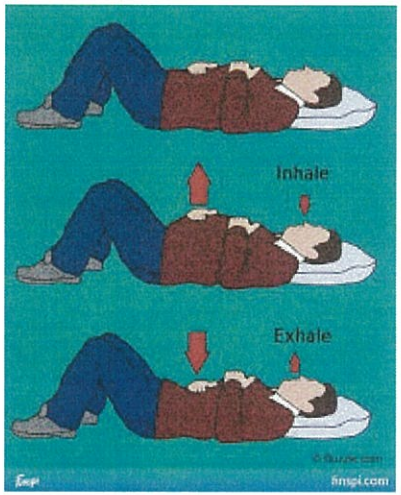
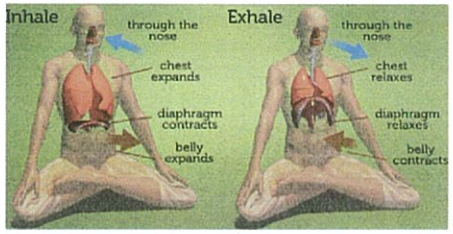
TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
		✓ Instruct patient and family about risk factors and strategies for prevention of pressure ulcers. **POINTS TO BE REMEMBERED** • Massage is not recommended for pressure point. • Rubber rings (donut cushons)should not be used to elevate heal or sacral area. • The best preventive measure is frequent change of position.			

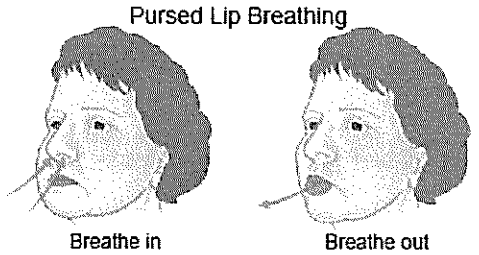
TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
2min	define the term hypostatic pneumonia	**HYPOSTATIC PNEUMONIA** **DEFINITION** A lung inflammation associated with immobility is called hypostatic pneumonia. **RISK FACTORS** - Individual at risk for impaired gas exchange related to immobility include; - Drugs that depress respiration such as anaestheticagents ,narcotics or sedatives. - Have abdominaldistention from gas,fluid or faeces. - Lie in one position for extended period of time.	Explaining		
3min	list down the signs and symptoms of hypostatic pneumonia	**CLINICAL MANIFESTATION** • Sudden onset of chill,increased fever 39.5c-40.5c • Cough productive purulent sputum • Pleuretic chest pain • Tachycardia • Nasal flaring • Use of accessory muscle for respiration			

TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
3 min	explain the anatomy andphysiology of lungs and cycle of respiration?	**ANATOMY AND PHYSIOLOGY** There are two lungs lying on each side of the midline in the thoracic cavity . Eachlung is covered by pleura a sac of serous membrane which consist of serous fluid . The lungs are compound of bronchi, smaller air passages, alveoli, connective tissue, lymph vessels and nerves. The muscles of respiration are: • Intercostal muscles • Diaphragm muscles **INTERCOSTAL MUSCLES** There are 11 pairs of intercostal muscles. They occupy the space between the 12 pairs of ribs. The first rib is fixed. When the intercostal muscle they pull all the other rib is fixed . When the intercostal muscle contract they pull all the other rib is fixed. When the intercostal muscles contract they pull all the other rib towards the first rib the thoracic cavity is enlarged anterior- posterior and laterally.	Explained with pictures		What are the muscles involved in respiration?

TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
		DIAPHRAM MUSCLES It is dome shaped muscle,it separating thoracic and abdominal cavities. The intercostal muscles and diaphragm contracts simultaneously ensuring the enlargement of thoracic cavity. **CYCLE OF RESPIRATION** This occurs 12-15 times per minutes and consist ofthree phases • Inspiration • Expiration • Pause The process of inspiration is active but expiration there is a pause before next cycle begins. **PATHOPHYSIOLOGY** Oxygen and co2 are exchanges in the thin, moist mucous membrane the line of airway passage and alveoli. Healthy persons take about 6-8 deep sighing breaths every hour.			

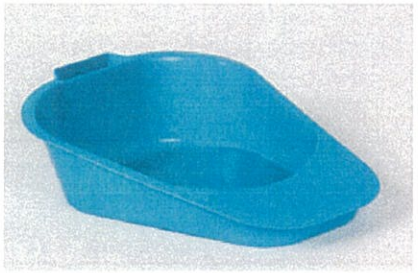
TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
		Sigh help keep the lung expended and move secretions upward along the air passages ↓ When a person remains immobile or does not take deep breathes thick secretions accumulate and pool in the lower respiratory structure. ↓ These secretions interlace with the normal exchange of gases can cause areas of the lung to collapse(atelectasis) ↓ Thus provide an environment for growth of pathogens.			
5min	mention the preventive measures of pneumonia	**PREVENTION OF PNEUMONIA** Patients at risk for respiratory complications include frequent turning and position changing and coughing and deep breath exercises.these interventions should be done every 2 hours.			

TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
2min	eneumerate the steps of breathing exercises	**BREATHING EXERCISES** **GENERAL INSTRUCTIONS** Breath slowly and rhythmically to exhale completely and empty the lungs completely. Inhale through the nose to filter, humidify and warm the air before it enterthe lungs. **DIAPHRAGMATIC BREATHING** ➢ Place one hand on the abdomen (just below the ribs) and the other hand on the middle of the chest. ➢ Breath in slowly and deeply through the nose. ➢ Breath out through the purse lips while tightening the abdominal muscles. ➢ Press inward and upward on the abdomen while breathing out ➢ Work up to 5 minutes several times a day.		 	What did u mean by pursed lip breathing?

TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
		PURSED LIP BREATHING • Inhale through the nose while counting to 3 . • Exhale slowly and evenly against pursed lips while tightening abdominal muscles. • Count to7 while prolonging expiration through pursed lips . after taking several deep breaths a cough should be attempted to bring up secretion.			

TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
2min	define the term constipation	**CONSTIPATION** **DEFINITION** Constipation refers to abdominal infrequency of defecation and also to abnormal hardening of stools that makes their passage difficult and sometimes painful.	explaining		What is constipation?
3min	point out the causes of constipation	**CAUSES** ❖ Inactivity ❖ Immobility ❖ Inability to defecate on a bedpan ❖ Embarrassment muscle tone ❖ Medications (narcotics) ❖ Lack of privacy ❖ Decreased fluid and fiber intake			What are the causes of constipation?
3min	describe the preventive measures of constipation	**PREVENTION** ➢ Encouraging proper food with adequate fiber ,fluids as possible can prevent or relieve constipation. ➢ Consume at least 3-10 glasses of fluid daily.		**Drink 2 liters of water/day** 	

TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
		HIGH FIBER DIET ❖ A high fiber diet is a regular diet that substitute high fiber foods. ❖ Cereals will provide adequate fiber 2-4 servings of fruit/day. Eat fruit with the skin whenever possible 3-5 serving of vegetables/day. ❖ High fiber diet ❖ Consume whole wheat ❖ Eat dried peas and beans two to three times/day ❖ Consume at least 8-10 glasses of fluid daily.			

TIME	COTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
2min	mention the precautions for using bed pan	**PRECAUTIONS FOR USING BEDPAN** • Provide privacy to the client • Place fracture bedpan under the buttocks with the flat end towards the client's back if she /he cannot use a regular bed pan. • If client is immobile roll him on the side away position the bedpan against clients buttocks hold it in place and turn the client. • Elevate the head end to semi fowler's position and knees flexed. • Provide sufficient time to eliminate the bowel contents. • After removing the bed pan provide perineal care.	explaining	 	What is the position of the client while using bed pan?

TIME	CONTRIBUTORY OBJECTIVES	CONTENT	TEACHER STUDENT ACTIVITY	A.V AIDS	EVALUATION
		SUMMARY The ability to move freely purposively and without restriction is vital to maintaining life. The nurse needs to be knowledgeable about the potential dangers of immobility which can cause even discomfort to the client.			

BIBLIOGRAPHY

1.NETTINA .M.SANDRA,"The Lippincott Manual of Nursing Practice, VI Ed. Philadelphia Raven publisher

Page;no;.215-220.

2.Maher .B. Salmond W. Susan, Pellono A. Teresa, Orthopedic nursing, PHILADELPHIA: W.B. Saunders company:1994

Page :no:65-75

3.Linton Dill Adrianne.Introduction to Medical Surgical Nursing VII Ed.Philadelphia:Lippincott William sand wilkins:1999

Page :no:314-319.

4.Rosdahl Bunker Caroline .Text Book of Basic nursing VII Ed .Philadelphia: Lippincott Williams and wilkins:1999

Page:no:599-603.

5.Wilson and Ross .Anatomy and Physiology, VIII Ed .London: Churchill Livingstone:1999,

Page :no:249-253.

எலும்பு முறிவின் காரணமாக அசையாதிருத்தலினால் ஏற்படும் பின்விளைவுகளை தடுப்பதற்கான வழிமுறைகளை பற்றிய பாடம்

முதன்மை மற்றும் மையக்கருப்பொருள்

நோயாளிகளுக்கு. எலும்புமுறிவினால். அசையாமல் படுக்கையிலே இருப்பதால் ஏற்படும் பின்விளைவுகளை எடுத்துரைத்து. அறிவை வளர்க்க உதவி செய்தல்.

துணைக் கருப்பொருள்

- படுக்கைபுண் பற்றி விளக்குக
- படுக்கை புண் ஏற்படக் காரணங்கள்
- தோலின் பயன்பாடுகள் பற்றி விளக்குக
- படுக்கை புண்ணின் படி நிலைகள்
- நிமோனியா பற்றி விளக்குக
- நிமோனியாவின் அறிகுறிகள்
- நிமோனியா வராமல் இருக்க தடுப்பு முறைகள் பற்றி கூறுக
- சுவாசப் பயிற்சியின் படி நிலைகள்
- மலச்சிக்கலைப் பற்றி விளக்குக
- மலச்சிக்கல் ஏற்படக்காரணங்கள்
- மலச்சிக்கல் வராமல் இருக்க தடுப்பு முறைகள் பற்றி கூறுக

முகவுரை

. எலும்பு முறிவு என்பது எலும்பு தொடர்ச்சியில் ஏற்படும் முறிவு. எலும்பு முறிவின் முக்கிய அறிகுறி வீக்கம் ஏற்படுதல் ஆகும். அசைவுறுதல் என்பது உடலியல். அது ஒரு மனிதன் உயிரோடிருக்கும் வரை நடைபெறும். எனவே எலும்பு முறிவினால் எலும்பு அசைவு இல்லாமல் போனால் பின் விளைவுகள் அதிகமாக ஏற்பட வாய்ப்புகள் உள்ளன. அவற்றுள் சிலவற்றை பார்ப்போம்.

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலி/ஒளி உபகரணங்கள்	மதிப்பீடு
		தலைப்பை விளக்கமாக எடுத்துரைத்தல்: நீண்ட கால ஓய்வினால்/ படுக்கையில் இருப்பதால் ஏற்படும் பாதிப்புகள் அதிகம் .அவற்றுள் முதன்மையானவைகள்: ❖ படுக்கை புண் ❖ நிமோனியா ❖ மலச்சிக்கல்		மின்னல் அட்டை	

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலி/ஒளி உபகரணங்கள்	மதிப்பீடு
		I)படுக்கை புண் தோலில் உள்ள திசுக்கள் இறந்து போவதால் புண்கள் உருவாகிறது.எலும்புக்கும் வெளிப்புற தோலுக்கும் அதிக நேர உராய்வு ஏற்படுவதினால் திசுக்கள் இறந்து போகின்றன இதற்கு பெயர் படுக்கை புண் ஆகும். அதிகமாக பாதிக்கப்படும் இடங்கள் ➢ தலை ➢ தோள்பட்டை ➢ பாதம் ➢ இடுப்புப்பகுதி ➢ கணுக்கால் மூட்டு ➢ குதிகால் ➢ தொடை பகுதி		மின்னல் அட்டை	

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலிஒளி உபகரணங்கள்	மதிப்பீடு
		காரணிகள் ஒரு மனிதன் நீண்ட காலமாக படுக்கையில் அசையாமல் ஓய்வில் இருக்கும் போது தோல் பகுதிக்கும் மனிதன் அழுத்தம் வைத்து ஓய்வு எடுக்கும் பகுதிக்கும் இடையே அழுத்தம் அதிகமாவதால் புண் உருவாகிறது . எது மனிதன் ஓய்வு எடுக்கும் காலத்தை பொறுத்தது. ❖ மனிதனின் தொடு உணர்வில் அல்லது சுய நினைவில் மாற்றம் ❖ தொடு உணர்வு இல்லாத போது ❖ சத்து குறைவின்மை,செரிமான பிரச்சனை, இரத்தச்சோகை போன்ற பிரச்சினைகள் இருக்கும் போது திசுக்கள் விரைவாக இறக்கின்றன. ❖ உராய்வு தன்மை அதிகமாகும் போது புண் உருவாகிறது. வியர்வையால் உண்டாகும் ஈரம், ஈரத்துணி மற்றும் ஈரமான இடத்தில் நீண்ட நேரம் ஓய்வு		மின்னல் அட்டை	

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலிஒளி உபகரணங்கள்	மதிப்பீடு
		எடுக்கும் போது தோலின் மென்மை உடைந்து சிதைந்து போகும். தோலின் உடற்கூறியல்: மனிதனின் உடல் தோலால் மூடப்பட்டுள்ளது. தோலில் சுரப்பிகள், முடிகள், நகங்கள் உள்ளன. தோலில் இரண்டு பகுதிகள் உள்ளன அவை : • மேல் தோல் • உட்புறத்தோல் செயல்பாடுகள்: ❖ உடல் உறுப்புகளுக்கு பாதுகாப்பு அளிப்பது தோலின் முக்கிய பணியாகும். ❖ உடல் வெப்பநிலையை சீராக்குகிறது. ❖ தொடு உணர்வுக்குப் பயன்படுகிறது. ❖ வைட்டமின் D என்னும் சத்து பொருளை உறிஞ்சுகிறது. ❖ தேவையற்ற பொருட்களை வெளியேற்ற உதவுகிறது.		மின்னல் அட்டை	

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலிஒளி உபகரணங்கள்	மதிப்பீடு
		புண் உருவாகும் படிநிலைகள் படி: I :- தொழில் உராய்வு ஏற்படுவதினால் இரத்தம் கட்டுகிறது. படி : II:- தோலை சுற்றி வலியுடன் கூடிய இரத்தம் கட்டிய சூடான நிலை உருவாதல். படி : III:- திசு மடிதல்/ இறந்து விடுதல். படி : IV :- எலும்பு மற்றும் தசை மூட்டுகளை புண் ஊடுருவதினால் கெட்ட துர்நாற்றம் மற்றும் சீழ் வடிதல் ஆரம்பம் ஆகும். புண் கருநிலையை அடையும். தடுக்கும் வழிமுறைகள் : ❖ முதலில் யாருக்கெல்லாம் புண் வரும் வாய்ப்பு உள்ளது என்பதை நன்கு அறிந்து கொள்ள வேண்டும். ❖ ஒவ்வொரு இரண்டு மணி நேரத்திற்கும் படுத்திருக்கும் நிலையை மாற்ற வேண்டும். ❖ படுக்கை விரிப்பை சுருக்கமில்லாமல் சுத்தமாகவைத்து கொள்ள வேண்டும்.		மின்னல் அட்டை	

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலிஒளி உபகரணங்கள்	மதிப்பீடு
		❖ வெதுவெதுப்பான நீரினால் சீரான இடைவெளியில் உடலை துடைத்து விட வேண்டும். ❖ நோயாளியை திருப்பும் போதும், நகர்த்தும் போதும் உராய்வை தடுக்க வேண்டும். ❖ காற்று மற்றும் தண்ணீர் நிரப்பிய படுகைகளை / மெத்தைகளை பயன்படுத்த வேண்டும். ❖ அதிக அழுத்தம் பெறும் பகுதிகளில் மென்மையான தலையணைகளை பயன்படுத்த வேண்டும். ❖ அதிகமாக அழுத்தம் பெறும் பகுதிகளை தேய்க்க கூடாது .		மின்னல் அட்டை	

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலிஒளி உபகரணங்கள்	மதிப்பீடு
		2)நிமோனியா நீண்ட நேரம் ஒரே நிலையில் ஓய்வெடுப்பதினால் உருவாகும் நுரையீரல் தொற்று நோயை நிமோனியா என்கிறோம். அபாயக்குறி அதிகம் உள்ளவர்கள் • சுவாச பரிமாற்றம் உள்ளவர்கள் . • மயக்க / போதை மருந்துகள் எடுப்பவர்கள். • தண்ணீர்/நீர்/ காற்றினால் வயிறு உப்பி காணப்படுபவர்கள். • ஒரே நிலையில் அதிக நேரம் படுத்து இருப்பது. அறிகுறிகள் ✓ திடீர் காய்ச்சல் ✓ சளியுடன் கூடிய இருமல் ✓ அதிகமானநெஞ்சு வலி ✓ படபடப்பு ✓ மூச்சு திணறலுடன் கூடிய காய்ச்சல் ✓ மூச்சு விட இதய தசைகளை பயன்படுத்துதல்.		மின்னல் அட்டை	

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலிஒளி உபகரணங்கள்	மதிப்பீடு
		உடலியல் மற்றும் உடற்கூறியல் மனிதனுக்கு இரண்டு நுரையீரல்கள் நெஞ்சு பகுதியில் உள்ளது. அதில் காற்றுப்பைகள் மற்றும் இரத்த நாளங்கள் உள்ளன. சுவாசத்திற்கு உதவும் தசைகள் ❖ நெஞ்சு எலும்புகளுக்கு இடையேயான தசைகள் ❖ உதரவிதானம் நெஞ்சு எலும்புகளுக்கு இடையேயான தசைகள்: பதினொன்று இணை தசைகள் உள்ளன. மனிதனுக்கு இடது வலது என இரண்டு நுரையீரல்கள் உள்ளது. இது நெஞ்சு கூடு தசைகளால் மூடப்பட்டுள்ளது.		மின்னல் அட்டை	

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலிஒளி உபகரணங்கள்	மதிப்பீடு
		உதரவிதான தசை அரைநிலா வடிவிலான தசை வயிற்று பகுதிகளை நெஞ்சு பகுதிலிருந்து பிரிக்கிறது. இது நெஞ்சு பகுதியின் விரிவான செயல்களுக்கு உதவுகிறது. சுவாச சுற்று இது 12 - 15 தடவை ஒரு நிமிடத்திற்கு 3 படிகளில் நடைபடுகிறது. ⊥ உள்மூச்சு ⊥ வெளிமூச்சு ⊥ இடைவேளை சுவாசம் நடைபெறும் முறைகள் ஆக்சிஜன் மற்றும் கார்பன் டை ஆக்சைடு இடையே சுவாச பரிமாற்றம் நுரையீரலில் காற்று பைகள் என்ற கடைசி பகுதியில் நடைபெறுகிறது. மனிதன் ஒரு மணி நேரத்திற்கு 6 -8 தடவை பெருமூச்சு விடுகிறான். இப்படி பெருமூச்சு விடும் போதுநுரையீரல் விரிந்து சளி மற்றும் சுரப்பு நீர் மேல்பாகத்திற்கு தள்ளிவிடுகிறது.		மின்னல் அட்டை	

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலிஒளி உபகரணங்கள்	மதிப்பீடு
		 ஆனால் மனிதன் அசையாமலிருக்கும் போது அது அப்படியே நுரையீரலின் அடிபகுதியில் தங்கி விடுகிறது. அதனால் ஆக்சிஜன் மற்றும் கார்பன் டை ஆக்சைடு இடையே சுவாச பரிமாற்றம் செய்ய முடியாமல் நுரையீரல் செயல் இழக்க நேரிடுகிறது.  கிருமிகள் வளர வாய்ப்புகள்இருக்கிறது. (நிமோனியா) தடுப்பு முறைகள் ↓ அடிக்கடி படுக்கும் முறையை மாற்றிக் கொள்ள வேண்டும். ↓ மூச்சுப் பயிற்சியை அடிக்கடி மேற்கொள்ள வேண்டும்.		மின்னல் அட்டை	

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலிஒளி உபகரணங்கள்	மதிப்பீடு
		✦ இவற்றை எல்லாம் 2 மணி நேரத்திற்கு ஒருமுறை செய்ய வேண்டும். மூச்சு பயிற்சிகள் / சுவாச பயிற்சிகள் 1.மூச்சை மெதுவான மூக்கின் வழியே இழுத்து வாய்வழியே விட வேண்டும். உதரவிதான மூச்சு பயிற்சி ❖ ஒரு கையை வயிற்றின் மேலும் ஒரு கையை நெஞ்சின் மேலும் வைத்து கொள்ள வேண்டும் . ❖ மூச்சை மெதுவாக மூக்கின் வழியாக உள்ளே இழுக்கவும். ❖ வயிற்று தசைகளை இறுக்கி பிடித்த பின் வாய் வழியாக சுவாசத்தை விடவும். ❖ 15 நிமிட இடைவெளியில் ஒரு நாளைக்கு பல தடவை செய்ய வேண்டும்.		மின்னல் அட்டை	

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலிஒளி உபகரணங்கள்	மதிப்பீடு
		வாய் வழி சுவாசபயிற்சி:- ❖ 1,2,3 என சொல்லி கொண்டே மூக்கு வழியே காற்றை உள்ளிளுக்கவும் ❖ மெதுவாக வாய் வழியே காற்றை வெளிவிட வேண்டும். ❖ 7 வரை சொல்லி கொண்டே முடிந்தவரை சளி மற்றும் சுரப்பு நீரை வெளியே கொண்டு வரவும். III) மலச்சிக்கல் மலச்சிக்கல் என்பது மலம் இறுகி கடினமாகி வலியுடன் கூட வெளியே வருவது தான் மலச்சிக்கல் ஆகும். காரணிகள் ↓ வேலை செய்யமலிருப்பது ↓ அசையமலிருத்தல் ↓ தசை பிடிப்பு காரணமாக ↓ மருந்துகள்		மின்னல் அட்டை	

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலிஒளி உபகரணங்கள்	மதிப்பீடு
		↓ Iசரியற்ற மருத்துவ முறையின்மை. ↓ தண்ணீர் மற்றும் நார் சத்து குறைவாக எடுத்து கொள்வது. தடுப்பு முறைகள் ✓ தினமும் உணவில் நார்சத்து பொருள் உள்ள உணவை சேர்த்து கொள்ள வேண்டும். ✓ தானியங்களை/ பருப்பு வகைகளை 2-4 தடவை தோலுடன் சாப்பிட வேண்டும். ✓ முழு தானியமான கோதுமையை சேர்த்து கொள்ள வேண்டும். ✓ காய்ந்த பட்டாணி சாப்பிடலாம். ✓ 3-10 டம்ளர் தண்ணீர் பருக வேண்டும்.		மின்னல் அட்டை	

வரிசை எண்	துணை கருப்பொருள்	கருத்துரை	விளக்குதல்	ஒலிஒளி உபகரணங்கள்	மதிப்பீடு
		முடிவுரை ஒரு மனிதனுக்கு அசைவுறுதல் என்பது மிக முக்கியம். அவ்வாறு அசையாமல் இருந்தால் பலநோய்கள் வரும். அவற்றை எல்லாம் அறிந்து நோய்களை வராமல் தடுத்து உடலை கட்டுகோப்பாய் வைத்து கொள்ள வேண்டும்.		மின்னல் அட்டை	

வடிவமைக்கப்பட்ட நிபந்தனை

பகுதி-1

1) பெயர் :

2) வயது :

3) பாலினம் : ஆண் / பெண்

4) கல்வித்தகுதி

அ) படிக்காதவர் ☐

ஆ) தொடக்கக்கல்வி ☐

இ) மேல்நிலைக்கல்வி ☐

ஈ) பட்டதாரி ☐

உ) பிற படிப்புகள் ☐

5) தொழில்

அ) இல்லத்தரசி ☐

ஆ) கூலித்தொழில் ☐

இ) சுயதொழில் ☐

ஈ) அரசு ஊழியர் ☐

உ) பிற தொழில்கள் ☐

6) மாத வருமானம்

அ) ரூ.1000க்குள் ☐

ஆ) ரூ.1000 முதல் ரூ.2000 வரை ☐

இ) ரூ.2000 முதல் ரூ.3000 வரை ☐

ஈ) ரூ.3000க்கு மேல் ☐

அசையாதிருத்தலால் ஏற்படும் பின்விளைவுகளை தடுக்கும் எலும்பு முறிவினால் பாதிக்கப்பட்ட நபர்களின் அறிவுரை கண்டறியும் வகைகள்

பகுதி-2, பிரிவு-2, பொது அறிவு

1) எலும்பு என்றால் என்ன?

அ) எலும்பு தொடர்ச்சியில் ஏற்படும் முடிவு ☐

ஆ) தோலில் ஏற்படும் பிளவு ☐

இ) தசையில் ஏற்படும் பிளவு ☐

ஈ) உறுப்புகளில் ஏற்படும் சேதம் ☐

2) கீழ்கண்டவைகளில் எலும்பு முறிவின் அறிகுறி என்ன?

அ) அரிப்பு ☐

ஆ) வீக்கம் ☐

இ) சிவந்து போதல் ☐

ஈ) மதமதப்பு ☐

3) அசையாதிருத்தலால் ஏற்படும் பின்விளைவுகள் என்ன?

அ) படுக்கை புண், மலச்சிக்கல், நிமோனியா ☐

ஆ) அரிப்பு, வீக்கம், நீலநிறமாற்றம் ☐

இ) தலைவலி, சோர்வு, தூக்கம் ☐

ஈ) அதிக பசி, சுறுசுறுப்பு, வயிற்றுப்போக்கு ☐

4) எலும்புமுறிவினால் ஏற்படும் பின்விளைவுகளை எவ்வாறு தடுக்கலாம்?

அ) நடக்கச் செய்தல் ☐

ஆ) சரியான உணவு எடுத்தல் ☐

இ) நன்கு தூங்குதல் ☐

ஈ) படுக்கை நிலையை மாற்றுதல் ☐

5) கீழ்கண்டவைகளில் புரதச்சத்து நிறைந்தது எது?

அ) தண்ணீர், கறி, தேன் ☐

ஆ) சர்க்கரை, கேழ்வரகு, அரிசி ☐

இ) திராட்சி, வாழைப்பழம், மாம்பழம் ☐

ஈ) முட்டை, பால், பயறு வகைகள் ☐

பிரிவு-2, படுக்கைப்புண் மற்றும் அதை தடுக்கும் முறைகள்

6) படுக்கைப்புண் என்றால் என்ன?

அ) தோலில் ஏற்படும் பிளவு ☐

ஆ) அழுத்தத்தினால் ஏற்படும் தோல் பிரிவு ☐

இ) மூட்டுகளில் ஏற்படும் பிளவு ☐

ஈ) குறைந்த அளவு இரத்தம் மூளைக்கு செல்லுதல் ☐

7) நிமிர்ந்து படுக்கும்போது படுக்கைப்புண் ஏற்படும் இடங்கள்?

அ) கண், காது, வயிறு ☐

ஆ) முட்டி, கால்விரல், முகம் ☐

இ) தலை, தோள்பட்டை, பாதம் ☐

ஈ) மார்பு, கழுத்து, வயிறு ☐

8) படுக்கை புண் ஏற்படுவதற்கு தூண்டு காரணிகள் எவை?

அ) தண்ணீர் பருகுதல் ☐

ஆ) அசையாதிருத்தல் ☐

இ) அதிகமாக சாப்பிடுதல் ☐

ஈ) அதிகமாக நிற்பதால் ☐

9) கட்டுப்போட்ட பகுதியில் அழுத்தத்தைக் குறைக்க எது சிறந்த வழி?

அ) கூடுதல் பஞ்சு/ துணியை கட்டுக்கும் தோலுக்கும் இடையே வைத்தல் ☐

ஆ) கட்டுக்கு வெளியே பஞ்சு வைத்தல் ☐

இ) கட்டுப்போட்ட பகுதியை அசைத்தல் ☐

ஈ) கட்டுப்போட்ட பகுதியை உயர்த்தி வைத்தல் ☐

10) படுக்கைப்புண் தவிர்த்தல் தோல் எவ்வாறு இருக்க வேண்டும்?

அ) ஈரமாகவும், குளிர்ந்தும் இருக்க வேண்டும் ☐

ஆ) நனைந்து மற்றும் எண்ணெய் தேய்த்து இருக்க வேண்டும் ☐

இ) காய்ந்து, சுத்தமாக இருக்க வேண்டும் ☐

ஈ) மிகவும் காய்ந்து இருக்க வேண்டும் ☐

11) படுக்கையில் இருக்கும்போது சிறந்த படுக்கை முறை எது?

அ) மேல் நோக்கி படுத்திருத்தல் ☐

ஆ) தலையை தாழ்த்தி படுத்தல் ☐

இ) ஒரு பக்கம் சாய்ந்து படுத்தல் ☐

ஈ) அரைசாய்ந்த நிலையில் படுத்தல் ☐

12) எத்தனை முறை நோயாளியின் படுக்கை முறையை மாற்ற வேண்டும்?

அ) 2 மணி நேரத்திற்கு ஒருமுறை ☐

ஆ) 4 மணி நேரத்திற்கு ஒரு முறை ☐

இ) 6 மணி நேரத்திற்கு ஒரு முறை ☐

ஈ) 8 மணி நேரத்திற்கு ஒரு முறை ☐

பிரிவு-3, நிமோனியாவும் அதனை தவிர்க்கும் வழிமுறைகள்

13) நிமோனியா என்றால் என்ன?

அ) வயிற்றில் ஏற்படும் தொற்று ☐

ஆ) இருதயத்தில் ஏற்படும் தொற்று ☐

இ) சிறுநீரகத்தில் ஏற்படும் வீக்கம் ☐

ஈ) நுரையீரலில் ஏற்படும் தொற்று ☐

14) நிமோனியாவின் தூண்டு காரணிகள்?

அ) குறட்டை விடுதல் ☐

ஆ) அசையாதிருத்தல் ☐

இ) அதிகமாக சாப்பிடுதல் ☐

ஈ) உடற்பயிற்சி செய்தல் ☐

15) நிமோனியாவின் அறிகுறிகள் எவை?

அ) வாந்தியும், வயிற்றுப்போக்கும் ☐

ஆ) தொண்டை வலியும், காய்ச்சலும் ☐

இ) வயிற்று வலியும், சோர்வும் ☐

ஈ) காய்ச்சலும், மூச்சுத்திணறலும் ☐

16) சுவாசப் பயிற்சியை மேற்கொள்வது எப்படி?

அ) மெதுவாக மூக்கின் வழியாக காற்றை இழுத்து வாய் வழியாக மூச்சை விடுதல் ☐

ஆ) வாய் வழியாகவே மூச்சை இழுத்து விடுதல் ☐

இ) வேகமாக மூச்சை இழுத்து விடுதல் ☐

ஈ) மெதுவாக மூச்சை இழுத்து விடுதல் ☐

17) ஆழ்ந்த மூச்சுப்பயிற்சி எடுக்க எந்த நிலையில் இருத்தல் வேண்டும்?

அ) சாய்ந்து படுத்திருத்தல் ☐

ஆ) தூங்குதல் ☐

இ) உட்கார்ந்திருத்தல் ☐

ஈ) குப்புறப்படுத்தல் ☐

18) எத்தனை மணிக்கு ஒருமுறை ஆழ்ந்த மூச்சுப்பயிற்சி செய்தல் வேண்டும்?

அ) 8 மணி நேரத்திற்கு ஒரு முறை ☐

ஆ) 4 மணி நேரத்திற்கு ஒரு முறை ☐

இ) 6 மணி நேரத்திற்கு ஒரு முறை ☐

ஈ) 2 மணி நேரத்திற்கு ஒரு முறை ☐

19) ஆழ்ந்த மூச்சுப்பயிற்சி செய்வதால் என்ன நடக்கும்?

அ) நுரையீரல் சளி தேங்கி இருத்தல் ☐

ஆ) நுரையீரல் சளி சுத்திகரிக்கப்படுதல் ☐

இ) நுரையீரல் சளி கரைந்து போகுதல் ☐

ஈ) சளி வற்றிப்போகுதல் ☐

20) இருமல் பயிற்சி மேற்கொள்ளும் போது ஏன் வயிற்றில் அழுத்தம் கொடுக்க வேண்டும்?

அ) சோர்வினை தடுக்க ☐

ஆ) நுரையீல் அழுத்தத்தை அதிகரிக்க ☐

இ) உட்கார ஏதுவாக இருக்க ☐

ஈ) வயிற்று வலியை தடுக்க ☐

21) நோயாளியின் படுக்கை முறையை மாற்றுவதனால் ஏற்படும் பயன் என்ன?

அ) சளியை கரைக்க ☐

ஆ) கிருமி தொற்றை தடுக்க ☐

இ) சளியை அகற்ற ☐

ஈ) நோயாளியை சுறுசுறுப்பாக்க ☐

22) கீழ்கண்டவைகளில் எவை நுரையீல் விரிவதை தூண்டுகின்றன?

அ) ஊதுதல் ☐

ஆ) அதிக நேரம் உட்கார்ந்து இருத்தல் ☐

இ) நடத்தல் ☐

ஈ) அதிக நீர் பருகுதல் ☐

பிரிவு-4, மலச்சிக்கலும் அதனை தவிர்த்தலும் பற்றிய வழிமுறைகள்

23) மலச்சிக்கலின் காரணம் என்ன?

அ) நீர் பருகுதல் ☐

ஆ) விளையாடுதல் ☐

இ) அதிக உணவு எடுத்துக்கொள்ளுதல் ☐

ஈ) அசையாதிருத்தல் ☐

24) கீழ்கண்டவைகளில் மலச்சிக்களின் பின் விளைவுகள் என்ன?

அ) மூலம் ☐

ஆ) எடைக்குறைதல் ☐

இ) நடக்க சிரமப்படுதல் ☐

ஈ) வயிற்றுப்போக்கு ☐

25) மலம் கழிக்க வேண்டும் என்று தோன்றும் பொழுது என்ன செய்வீர்கள்?

அ) காலை அல்லது இரவு வேளைக்காக காத்திருப்பேன் ☐

ஆ) கோப்பையை கேட்பேன் ☐

இ) போகமாட்டேன் ☐

ஈ) கோப்படுவேன் ☐

26) கோப்பையை பயன்படுத்தும்பொழுது எந்த நிலையைப் பயன்படுத்த வேண்டும்?

அ) அரை நிலையில் சாய்ந்து இருத்தல் ☐

ஆ) தலைப் பகுதியை தாழ்த்தி வைத்தல் ☐

இ) மேல்நோக்கி படுத்து இருத்தல் ☐

ஈ) சாய்ந்து படுத்து முழங்கால்களை மடக்கி வைத்திருத்தல் ☐

27) கீழ்கண்டவைகளில் எவை மலம் கழிப்பதற்கு சிறந்த கூற்று?

அ) நோயாளிக்கு தனிமை வேண்டும் ☐

ஆ) நோயாளியை தனியாக விடக்கூடாது ☐

இ) சரியான நிலையில் படுக்க வைக்க வேண்டும் ☐

ஈ) போதுமான நேரம் கொடுக்க வேண்டும் ☐

28) சராசரி மனிதனுக்கு ஒரு நாளில் தேவையான நீரின் அளவு?

அ) 3-5 டம்ளர் தண்ணீர் ☐

ஆ) 8-10 டம்ளர் தண்ணீர் ☐

இ) 11-13 டம்ளர் தண்ணீர் ☐

ஈ) 14-16 டம்ளர் தண்ணீர் ☐

29) எந்த உணவில் அதிக நார்ச்சத்து உள்ளது?

அ) கறி, முட்டை, மீன் ☐

ஆ) பருப்பு, பயறு, முட்டை ☐

இ) பழங்கள், காய்கறிகள், தானியங்கள் ☐

ஈ) பால் மற்றும் பால் வகைகள் ☐

30) அதிக நார்ச்சத்து கொண்ட உணவினை எடுத்துக்கொண்டால் என்ன பயன்?

அ) எளிதில் செரிமானம் ☐

ஆ) கொழுப்புச்சத்தை அதிகரிக்கும் ☐

இ) உடல் சத்தை அதிகரிக்கும் ☐

ஈ) மலச்சிக்கலை தடுக்கும் ☐

DEMOGRAPHIC DATA

Purpose:
To gather information related to age, sex,education, occupation, income etc.

Instructions:

- The interviewer requested the respondent to answer the following questions. She reads the various options mentioned under the corresponding questions.
- Repeat the answer till they understand.
- Allow the respondent to answer and place a tick mark ( ) on the answer sheet.
- All the information provided will be confidential.

Sample Code.....

1) Age in years ( )

2) Gender

- 2.1 Male ( )
- 2.2 Female ( )
- 2.3 Transgender ( )

3) Educational Status

- 3. 1 Illiterate ( )
- 3.2Primary School ( )
- 3.3 Secondary School ( )
- 3.4PUC ( )
- 3.5 Graduate ( )
- 3.6 Others- Specify

4) Occupation

- 4.1 House Wife ( )
- 4.2 Laborer ( )
- 4.3 Business ( )
- 4.4 Government ( )
- 4.5 Others —specify ( )

5) Monthly income in Rupees .

- 5.1Rs. <5000 ( )
- 5.2 Rs.5000-10000 ( )
- 5.3 Rs.>10,000 ( )

PART II

STRUCTURED QUESTIONS ON KNOWLEDGE REGARDING PREVENTION OF COMPLICATIONS AMONG IMMOBILIZED ORTHOPAEDIC PATIENTS.

PURPOSE:

Toassess the knowledge regarding preventionof complications among immobilized orthopaedic patients.

INSTRUCTIONS

- Listen the questions carefully and choose the appropriate one
- Each correct answer carries 1 mark
- Each incorrect answer carries 0 marks

General Information

I) What do you mean by fracture

a) Break in the continuity of the bone ( )

b) Break in the continuity of skin ( )

c) Break in the continuity of the muscle ( )

d) Break in the continuity of the organ ( )

2) Which of the following is the sign of fracture?

a) Itching ( )

b) Swelling ( )

c) Redness ( )

d) Numbness ( )

3) Which of the following is the complications of immobility?

a) Pressure sores, Constipation, Pneumonia ( )

b) Itching, Swelling, bluish discoloration ( )

c) Headache, lethargic, feels sleepy ( )

d) Excess eating, active, diarrhea ( )

4) How do you prevent the complications of immobility due to fracture?

a) Ambulating ( )

b) Eating adequately ( )

c) Sleeping adequately ( )

d) Changing position ( )

5) Which of the following group of item is the rich source of protein?

a) Egg, Meat, Pulses ( )

b) Sugar, Ragi, Rice ( )

c) Grapes, Banana, Mango ( )

d) Water, Milk, Honey ( )

Section- B

Knowledge regarding pressure sores and its prevention

6) What do you mean by pressure sores?

a) Break in the continuity of the bone ( )

b) Skin breakdown due to pressure ( )

c) Break in the continuity of the joints ( )

d) Reduced blood supply to the brain ( )

7) Which are the common sites of pressure sores on supine position?

a) Eyes, Ears, Stomach ( )

b) Knees, Toes, Face ( )

c) Head, Scapula, Heel ( )

d) Breast, Neck, Stomach ( )

8) Which is the risk factor of pressure sores?

a) Fluid intake ( )

b) Immobility ( )

c) Excessive eating ( )

d) Standing ( )

9) Which is the best method to relieve the pressure from the cast?

a) Insert additional pads between cast and the skin ( )

b) Additional padding is placed above the cast ( )

c) Dangling the leg from the bed with the cast ( )

d) Elevate ( )

10) How should the skin be maintained to prevent skin breakdown?

a) Moist and Cold ( )

b) Wet and Oily ( )

c) Dry and Clean ( )

d) Very dry ( )

11) When client is on the bed which is the best position?

a) Supine position ( )

b) Head and lowered ( )

c) Side lying position ( )

d) Semi fowler's position ( )

12) How often position should be changed when client is immobilized on the bed?

a) Every 2nd hourly ( )

b) Every 4th hourly ( )

c) Every 6th hourly ( )

d) Every 8th hourly ( )

Section C

Knowledge regarding hypostatic pneumonia and its prevention

13) What do you mean by pneumonia?

a) Infection of the stomach ( )

b) Infection of the heart ( )

c) Infection of the kidney ( )

d) Infection of the Lung ( )

14) Which of the following is the risk factor for hypostatic pneumonia?

a) Snoring ( )

b) Immobility ( )

c) Over eating ( )

d) Exercises ( )

15) Which of the following is the sign of pneumonia?

a) Vomiting and diarrhea ( )

b) Throat pain and fever ( )

c) Stomach pain and weakness ( )

d) Fever and dyspnea ( )

16) How do you perform the deep breathing exercise?

a) Slowly inhale through the nose and exhale through the mouth ( )

b) Inhale through the mouth and exhale through the mouth ( )

c) Quickly inhale and quickly exhale ( )

d) Slowly inhale and slowly exhale ( )

17) Which is the best position for deep breathing exercises?

a) Side lying ( )

b) Sleeping ( )

c) Sitting ( )

d) Prone position ( )

18) How often deep breathing should be done?

a) Every 4th hourly ( )

b) Every 3rd hourly ( )

c) Every 6th hourly ( )

d) Every 2nd hourly ( )

19) What happens if patient does not do deep breathing exercises?

a) Secretions accumulate in the lungs ( )

b) Secretions become purified ( )

c) Secretions are diluted ( )

d) Secretions enter the stomach ( )

20) What is the purpose of splinting the abdomen during coughing exercises?

a) Prevents tiredness ( )

b) Increases thoracic pressure ( )

c) Makes easy for sitting ( )

d) Prevent abdominal pain ( )

21) What is the benefit of turning the client frequently?

a) Dilutes secretions ( )

b) Causes infection ( )

c) Mobilized secretions ( )

d) Makes the patient active ( )

22) Which of the following causes good lung expansion?

a) Blowing a balloon ( )

b) Sitting for long time ( )

c) keeping the windows open ( )

d) Drinking excess water ( )

Section D

Knowledge regarding constipation and its prevention

23) What is the cause for constipation?

a) Drinking water ( )

b) Playing ( )

c) Eating excessively ( )

d) Immobility ( )

24) Which one of the following is the complication of constipation?

a) Hemorrhoids ( )

b) Loss of weight ( )

c) Difficulty in walking ( )

d) Diarrhea ( )

25) What do you do when you get the urge to defecate?

a)wait till the next morning or night time ( )

b) Ask for bedpan ( )

c) Postpone it ( )

d) Get angry ( )

26) Which is the best position on the bed pan ?

a) Semi fowlers position ( )

b) Lower the head end of the bed ( )

c) Supine position ( )

d) Semi fowler with knees flexed ( )

27) Which is the following statement is not correct regarding passing stool?

a) Privacy should be provided ( )

b) Do not leave the patient alone ( )

c) provide correct position ( )

d) Provide enough time to pass stool ( )

28) What is the quantity of water required for an average adult?

a) 3-5 glasses ( )

b) 8-10 glasses ( )

c) 11-13 glasses ( )

d) 14-16 glasses ( )

29) Which food contains high fiber content?

a) Meat, Egg, Fish ( )

b) Cereals, Pulses, Egg ( )

c) Fruits, Vegetables, Grains ( )

d) Milk and Milk Products ( )

30) What is the advantage of high fiber diet?

a) Easy digestion ( )

b) Improves body appearance ( )

c) Maintain nutritional status ( )

d) Prevents constipation ( )

KEY ANSWERS

TOTAL MARKS: 30 **RIGHT ANSWERS: 1 MARK**

NUMBER OF ITEMS:30 **WRONG ANSWER:0 MARK**

QUESTION NUMBERS	ANSWERS	QUESTION NUMBERS	ANSWERS
1	A	16	A
2	B	17	c
3	A	18	d
4	D	19	a
5	D	20	b
6	B	21	a
7	C	22	d
8	B	23	d
9	C	24	a
10	C	25	b
11	D	26	d
12	A	27	b
13	D	28	b
14	B	29	c
15	D	30	d

ஆராய்ச்சி ஒப்புதல் கடிதம்

ஆராய்ச்சியின் தலைப்பு : எலும்பு முறிவின் காரணமாக அசையாதிருத்தலினால் ஏற்படும் பின்விளைவுகளை தடுப்பதற்கான வழிமுறைகளை பற்றிய பாடம்.

ஆய்வாளர் பெயர் : கு. ஜெயச் சந்திரா

பங்கேற்பாளர் பெயர் :

தேதி :

வயது/பால் :

- ஆய்வாளர் மேற்கொள்ளும் ஆராய்ச்சியில் பங்கேற்க யாருடைய கட்டாயமுமின்றி முழுமனதுடனும் சுயநினைவுடனும் சம்மதிக்கிறேன்.
- ஆய்வாளர் மேற்கொள்ள போகும் பரிசோதனைகளை மிக தெளிவாக விளக்கிக் கூறினார்.
- எனக்கு விருப்பமில்லாத பட்சத்தில் ஆராய்ச்சியிலிருந்து எந்நேரமும் விலகலாம் என்பதையும் ஆய்வாளர் மூலம் அறிந்து கொண்டேன்.
- இந்த ஆராய்ச்சி ஒப்புதல் கடிதத்தில் உள்ள விவரங்களை நன்கு புரிந்து கொண்டேன். எனது உரிமைகள் மற்றும் கடமைகள் ஆராய்ச்சியாளர் மூலம் விளக்கப்பட்டது.
- நான் ஆராய்ச்சியாளருடன் ஒத்துழைக்க சம்மதிக்கிறேன். எனக்கு ஏதேனும் உடல்நலக்குறைவு ஏற்பட்டால் ஆராய்ச்சியாளரிடம் தெரிவிப்பேன்.
- நான் வேறு எந்த ஆராய்ச்சியிலும் தற்சமயம் இடம்பெறவில்லை என்பதை தெரிவித்து கொள்கிறேன்.
- இந்த ஆராய்ச்சியின் தகவல்களை வெளியிட சம்மதிக்கிறேன். அப்படி வெளியிடும் போது என் அடையாளம் வெளிவராது என்பதை அறிவேன்.
- எனக்கு இந்த ஒப்புதல் கடிதத்தின் நகல் கொடுக்கப்பட்டது.

ஆய்வாளர் கையொப்பம் பங்கேற்பாளர் கையொப்பம்

தேதி தேதி

ஆராய்ச்சி தகவல் தாள்

ஆய்வின் தலைப்பு : எலும்பு முறிவின் காரணமாக அசையாதிருத்தலினால் ஏற்படும் பின்விளைவுகளை தடுப்பதற்கான வழிமுறைகளை பற்றிய பாடம்.

பங்கேற்பாளர் பெயர் :

ஆய்வாளர் பெயர் : கு. ஜெயச் சந்திரா

ஆய்வு நடைபெறும் இடம் : ராஜீவ் காந்தி அரசு பொது மருத்துவமனை, சென்னை -03.

..... என்பவராகிய நான் இந்த ஆய்வின் விவரங்களும் அதன் நோக்கங்களும் முழுமையாக அறிந்து கொண்டேன். எனது சந்தேகங்கள் அனைத்திற்கும் தகுந்த விளக்கம் அளிக்கப்பட்டது. இந்த ஆய்வில் முழு சுதந்திரத்துடன் மற்றும் சுயநினைவுடன் பங்கு கொள்ள சம்மதிக்கிறேன்.

1. நான் இந்த ஒப்புதல் தகவல் தாள் படித்து புரிந்து கொண்டேன்.
2. இச்சுய ஒப்புதல் படிவத்தை பற்றி எனக்கு விளக்கப்பட்டது.
3. எனக்கு விளக்கப்பட்ட விஷயங்களை நான் புரிந்து கொண்டேன். நான் எனது சம்மதத்தை தெரிவிக்கிறேன்.
4. இந்த ஆய்வினை பற்றிய அனைத்து தகவல்களும் எனக்கு தெரிவிக்கபட்டது.
5. இந்த ஆய்வில் எனது உரிமை மற்றும் பங்கினை பற்றி அறிந்து கொண்டேன்.
6. இந்த ஆய்வில் ஏற்படும் பாதிப்புகள் பற்றி எனக்கு விளக்கம் அளிக்கப்பட்டது.
7. நான் ஆய்வாளருக்கு முழு ஒத்துழைப்பு அளிப்பேன், மேலும் எனக்கு பக்கவிளைவு எதாவது ஏற்பட்டால் ஆய்வாளருக்கு உடனடியாக தெரிவிப்பேன்.

இந்த ஆய்வில் பிறரின் நிற்பந்தமின்றி என் சொந்த விருப்பத்தின் பேரில் தான் பங்கு பெறுவேன், மற்றும் நான் இந்த ஆராய்ச்சியிலிருந்து எந்த நேரமும் பின் வாங்கலாம் என்பதையும் நான் புரிந்து கொண்டேன்.

இந்த ஆய்வில் கலந்துகொள்வதின் மூலம் என்னிடம் பெறப்படும் தகவலை ஆய்வாளர் ஆய்வாளர் இன்ஸ்டிட்யூசனல் எத்திக்ஸ் கமிட்டியினரிடமோ, அரசு நிறுவனத்திடமோ தேவைப்பட்டால் பகிர்ந்து கொள்ளலாம் என சம்மதிக்கிறேன்.

இந்த ஆய்வின் முடிவுகளை வெளியிடும் போது எனது பெயரோ அடையாளங்களோ வெளியிடப்படாது என அறிந்து கொண்டேன்.

இந்த ஆய்வில் பங்கேற்கும் பொழுது ஏதேனும் சந்தேகம் ஏற்பட்டால் உடனே ஆய்வாளரை தொடர்பு கொள்ள வேண்டும் என அறிந்து கொண்டேன்.

இந்த ஆராய்ச்சி தகவல் தாளில் கையழுத்திடுவதின் மூலம் இதிலுள்ள அனைத்து விஷயங்களும் எனக்கு தெளிவாக விளக்கப்பட்டது என்று தெரிவிக்கிறேன் மற்றும் ஆராய்ச்சியையும் புரிந்து கொண்டேன். இந்த ஒப்புதல் படிவத்தின் நகல் எனக்கு கொடுக்கப்படும் என்று தெரிந்து கொண்டேன்.

ஆய்வினால் ஏற்படும் நன்மைகள்

இந்த ஆய்வில் கலந்து கொள்வதன் மூலம் நீங்கள் எலும்பு முறிவின் காரணமாக அசையாதிருத்தலினால் ஏற்படும் பின்விளைவுகளை தடுப்பதற்கான வழிமுறைகளை அறிந்து அதன் மூலம் பயன்பெற உதவியாக இருக்கும்.

இந்த ஆய்வில் பங்கேற்காவிட்டாலும் நீங்கள் வழக்கமான சிகிச்சையை தொடர்ந்து பெறலாம்.

பங்கேற்பாளர் கையொப்பம் தேதி :

ஆய்வாளர் கையொப்பம் தேதி :

PATIENT CONSENT FORM

TITLE:"A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME REGARDING PREVENTION OF SELECTED COMPLICATIONS AMONG IMMOBILIZED ORTHOPAEDIC PATIENTS IN RAJIV GANDHI GOVERNMENT GENERAL HOSPITAL,CHENNAI."

Name of the Participant :

Date :

Age/sex :

Name of the Principal Investigator: K.Jeya Chandra

Name of the Institution : RGGGH, Chennai-03.

Enrollment No :

Documentation of the Informed Consent: (legal representative can sign if the participant is minor or incompetent)

- I ..... have read the information in this form (or it has been read to me). I was free to ask any questions and they have been answered. I am over 18 years of age and exercising my free power of choice, hereby give my consent to be included as a participant in the study.
- I have read and understood this consent form and the information provided to me.
- I had the consent document explained in detail to me.
- I have been explained about the nature of my study.
- My rights and responsibilities have been explained to me by the investigator.
- I am aware of the fact that I can option out of the study at any time without having to give any reason and this will not affect my future treatment in this hospital.
- I hereby give permission to the investigator to release the information obtained from me as result of participation in this study to the sponsors, regulatory authorities, Government agencies and IECI, understand that they are publicly presented.
- I have had my questions answered to my satisfaction.
- I have decided to be in the research study.
- I am aware that if I have any question during this study, I should contact the investigator. By signing this consent form I attest that that the information given in this document has

been clearly explained to me and understood by me. I will be given a copy of this consent document.

1. **Name and Signature/thumb impression of the participant (or legal representative if participant incompetent)**

Name_____ Signature_____

Date_____

2. **Name and Signature of impartial witness (required for illiterate patients)**

Name _____ Signature_____

Date_____

3. **Name and Signature of the Investigator or her representative obtaining consent:**

Name_____ Signature_____

Date_____

INFORMATION TO PARTICIPANTS

TITLE:"A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME REGARDING PREVENTION OF SELECTED COMPLICATIONS AMONG IMMOBILIZED ORTHOPAEDIC PATIENTS IN RAJIV GANDHI GOVERNMENT GENERAL HOSPITAL,CHENNAI."

Name of the Participant :

Date :

Age/sex :

Name of the Principal Investigator: K.Jeya Chandra

Name of the Institution : RGGGH, Chennai-03.

Enrollment No :

You are invited to take part in this research/study/procedures. The information in this document is meant to help you decide whether or not to take part. Please feel free to ask if you have any queries or concerns.

You are being asked to participate in this study being conducted at Institute of Obstetrics and Gynecology, Chennai-08.

What is the purpose of the Research (explain briefly)

This research is conducted to "to assess the effectiveness of structured teaching programme regarding prevention of selected complications among immobilized orthopedic patients in orthopedic ward at RGGGH Chennai 03".

We have obtained permission from the Institutional Ethics Committee.

Study Design

Pre experimental research design (One group pre-test post-test design)

Study procedure

1. The study will be undertaken after approval from institutional ethics committee.

2. Those who are willing to participate will be enrolled and informed consent will be obtained.

3. The immobilized orthopedic patients who fulfil the inclusion criteria and exclusion criteria are selected the groups.

4. The level of knowledge about follow up care is assessed with structured interview schedule pre test to immobilized orthopedic patients.

5. To teach the lesson about how to prevent selected complication that is hypostatic pneumonia, pressure ulcer, and constipation.

6. After that assess the knowledge regarding prevention of complication after the structured teaching programme.

7. After seven days Analysis the knowledge

8. Result of the study will be analysed by using descriptive and inferential statistics.

Possible risks to you-Briefly Mention.

No risks involved.

Possible benefits to you

After finishing this study, investigator will provide adequate awareness about prevention of selected complication among immobilized orthopedic patients.

Possible benefits to other people

The result of the research may provide benefits to the society in terms of advancement of medical knowledge and/or therapeutic benefits to future patients.

Confidentiality of the information obtained from you

You have the right to confidentiality regarding the privacy of your medical information (personal details, results of physical examinations, investigations, and your medical history). The information from this study, if published in scientific journals or presented at scientific meetings, will not reveal your identity.

Your privacy in the research will be maintained throughout the study in the event of any publication or presentation resulting from research, no personal identity information will be shared.

How will your decision not to participate in the study affect you?

Your decision not to participate in this research study will not affect your daily living activities, medical care or your relationship with investigator or the institution.

Canyou decide to stop participating in the study once you start?

The participation in this research is purely voluntary and you have the right to withdraw from this study at any time during the course of the study without giving any reasons. The result of the study will be informed to you at the end of the study.

Signature of the Investigator

Date:

Signature of the Participant

Date:

CERTIFICATE OF ENGLISH EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation work **"A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME REGARDING PREVENTION OF SELECTED COMPLICATIONS AMONG IMMOBILIZED ORTHOPAEDIC PATIENTS IN RAJIV GANDHI GOVERNMENT GENERAL HOSPITAL, CHENNAI."** done by Mrs. K.Jeya Chandra, M.Sc (N)- II Year Student, College of Nursing, Madras Medical College, Chennai-03 is edited for English language appropriateness.

SIGNATURE : 03/8/17

DESIGNATION : P.G.T

SEAL : Mrs. M. UMA DEVI, M.A.,M.Ed.,M.Phil.,
P.G.TEACHER IN ENGLISH
GOVT. BOYS HIGHER SECONDARY SCHOOL
CHROMEPET, CHENNAI - 600 044.

CERTIFICATE OF TAMIL EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation work **"A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME REGARDING PREVENTION OF SELECTED COMPLICATIONS AMONG IMMOBILIZED ORTHOPAEDIC PATIENTS IN RAJIV GANDHI GOVERNMENT GENERAL HOSPITAL, CHENNAI."** done by Mrs.K.Jeya Chandra, M.Sc (N)- II Year, Student of College of Nursing, Madras Medical College, Chennai-03 is edited for Tamil language appropriateness.

SIGNATURE :

DESIGNATION :

SEAL :

25/07/14

V. PALANISAMY, M.A.,M.Phil.,B.Ed.,
P.G. Assistant In Tamil,
Govt. Boys Hr. Sec. School,
Chromepet, Chennai - 600 044.

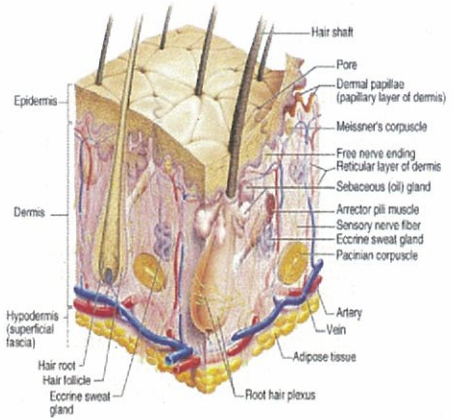
						Pretest (Positive response = 1 ; Negative response = 0)																													
Sample no.	Age	Sex	Education	Occupation	Income	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	18	M	Primary	COOLIE	1000	1	1	1	1	1	0	1	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	38	M	SECONDARY	OTHER WORK	3000	0	0	0	0	1	0	1	1	0	1	1	1	0	1	0	0	1	0	1	0	0	1	0	0	1	1	0	0	1	0
3	20	M	DEGREE	BUSINESS	6000	1	1	1	0	0	1	1	1	0	0	0	0	1	0	0	1	1	0	1	0	1	0	0	0	1	1	0	0	0	0
4	20	F	SECONDARY	HOME MAKER	3000	0	1	0	0	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0
5	23	F	PRIMARY	HOME MAKER	2000	1	1	1	0	1	0	1	1	0	1	0	1	0	0	0	1	0	0	0	0	0	1	0	0	1	0	1	1	1	0
6	38	F	SECONDARY	BUSINESS	3000	0	1	0	0	0	0	1	1	1	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0
7	25	M	SECONDARY	BUSINESS	4000	1	1	0	0	1	1	0	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	1	0
8	27	M	Primary	OTHER WORK	4000	0	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	1	1	0	0	1	0
9	39	M	Primary	BUSINESS	6000	0	1	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	0	0	1	0	0	0	1	0	1	0	0	1	0
10	28	M	SECONDARY	OTHER WORK	4000	1	0	1	1	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	0	0	1	0
11	50	M	SECONDARY	BUSINESS	6000	0	0	1	0	0	0	1	1	0	1	0	1	0	1	0	0	1	0	0	0	0	1	0	1	1	1	0	0	0	0
12	46	M	Primary	COOLIE	3000	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	1	0	0	1	0	1
13	18	M	SECONDARY	BUSINESS	3000	0	1	1	0	1	0	1	1	0	0	0	0	0	1	0	0	1	0	0	1	1	0	0	1	1	0	0	1	0	0
14	62	M	SECONDARY	GOVT.WORKER	10000	0	1	1	0	0	1	1	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1	0	0	1	0
15	23	F	Primary	HOME MAKER	2500	1	1	1	0	1	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0
16	22	F	SECONDARY	Home maker	1000	0	1	1	0	1	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
17	58	M	Primary	coolie	2000	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	1
18	86	M	illiterate	COOLIE	1000	0	1	1	0	0	0	1	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0
19	48	F	Primary	Home maker	2500	0	0	1	0	0	0	1	1	0	1	0	0	0	1	0	0	1	1	0	0	0	0	0	0	1	0	0	1	1	0
20	52	F	Primary	HOME MAKER	1000	0	0	1	0	1	0	1	1	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	1	0
21	65	M	SECONDARY	OTHER WORK	3000	1	1	1	0	0	0	1	1	0	1	0	1	0	0	0	0	1	0	1	0	1	1	0	1	0	1	1	1	0	0
22	37	F	Primary	Home maker	2500	0	1	1	0	0	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0
23	43	F	Primary	OTHER WORK	3000	0	1	1	0	0	0	1	1	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	1	1	0	0	1	1
24	77	F	Primary	coolie	3100	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	1	1	0
25	46	F	SECONDARY	GOVT.WORKER	10000	0	0	1	0	1	0	1	1	0	0	0	1	1	1	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1
26	30	F	SECONDARY	HOME MAKER	5000	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	1	0	0	1	1	0
27	38	M	SECONDARY	OTHER WORK	4000	0	0	1	0	0	1	1	1	0	0	0	1	0	0	0	0	1	0	1	0	0	1	0	0	1	1	0	0	1	0
28	35	M	Primary	coolie	2500	1	1	0	0	0	1	1	1	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	1	0
29	37	F	Primary	coolie	3500	1	1	1	0	1	1	1	1	0	0	0	1	0	1	0	0	1	1	0	1	0	1	0	1	0	0	1	1	0	0
30	41	F	Primary	COOLIE	3500	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
31	65	F	Primary	Home maker	1500	0	0	0	1	0	1	1	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	1	1	1	0	1	1
32	32	F	SECONDARY	Home maker	4000	0	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1	0	1	0	0	0	0
33	55	F	illiterate	Home maker	2000	0	1	0	0	1	1	0	1	0	0	0	1	0	0	1	0	1	1	0	1	0	1	1	1	1	0	0	0	1	0
34	19	M	DEGREE	OTHER WORK	5000	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	0	1	1	0	0	1	0
35	75	F	illiterate	OTHER WORK	3000	0	1	1	0	0	1	1	1	0	0	0	1	0	0	0	0	1	0	1	0	0	1	0	0	0	0	1	0	1	0
36	29	M	Primary	COOLIE	500	0	1	1	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	1	1	0	1	1	0	0	1	0
37	22	M	Primary	OTHER WORK	2000	1	1	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0
38	70	F	illiterate	Home maker	800	0	0	1	0	0	0	1	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0
39	52	F	illiterate	COOLIE	1500	1	0	1	0	0	0	1	1	0	0	0	1	0	1	1	0	0	0	0	1	0	0	1	0	1	1	0	0	0	0
40	55	M	Primary	OTHER WORK	4000	1	1	1	0	0	0	1	1	0	0	0	1	1	0	0	1	0	1	0	0	0	1	0	0	1	0	1	1	1	0
41	29	M	SECONDARY	OTHER WORK	4000	1	0	1	1	0	1	0	1	0	1	0	1	1	0	0	0	1	0	0	0	0	0	1	1	1	0	0	1	0	0
42	53	F	DEGREE	HOME MAKER	5000	1	1	0	0	0	0	1	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0

43	75	M	illiterate	coolie	700	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
44	55	M	illiterate	coolie	800	0	1	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	0
45	37	F	DEGREE	OTHER WORK	4000	1	1	1	0	0	0	1	1	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	1	0	0
46	35	F	Primary	HOME MAKER	2500	0	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0
47	50	M	Primary	COOLIE	3000	1	1	1	0	0	1	1	1	0	0	0	1	0	0	0	0	1	1	1	0	0	1	0	1	1	0	0	0	1	1
48	40	M	illiterate	COOLIE	700	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
49	40	M	SECONDARY	OTHER WORK	4000	1	1	1	1	1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	0	1	1	0	0	1	1
50	57	M	Primary	OTHER WORK	2500	1	1	1	0	0	0	1	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	1	1	0
51	22	M	DEGREE	OTHER WORK	5000	1	1	0	0	0	1	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0
52	62	F	Primary	OTHER WORK	2000	0	1	0	0	0	0	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	0	1	0
53	42	M	SECONDARY	OTHER WORK	4000	0	1	1	0	0	1	0	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	1	0	0
54	64	F	SECONDARY	HOME MAKER	2600	0	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0
55	59	M	Primary	COOLIE	3000	0	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
56	28	M	Primary	OTHER WORK	4000	0	0	1	0	0	1	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	1	0	1	0	1	0
57	30	M	Primary	OTHER WORK	2000	0	0	0	0	1	0	0	1	1	1	0	1	0	0	1	1	1	1	1	0	0	0	1	0	0	0	0	1	1	0
58	65	F	illiterate	coolie	500	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	1	0	0	1	0	1	1	1	0	0	1	0
59	65	M	illiterate	coolie	1300	0	1	1	0	0	1	1	1	0	0	0	1	0	1	0	0	1	0	1	0	0	1	0	0	1	0	0	1	0	0
60	50	F	SECONDARY	OTHER WORK	3800	1	1	1	0	0	0	1	1	0	1	1	1	0	1	1	1	1	0	0	0	0	1	0	0	1	0	0	1	1	0

			Post test (Positive response = 1 ; Negative response = 0)																																
Marks (30)	%	Grade	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30	marks	%	Grade
10	33.33	C	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	26	86.67	B
13	43.33	C	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0	1	1	1	1	0	1	1	1	1	1	1	25	83.33	B
13	43.33	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	26	86.67	B
8	26.67	D	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	28	93.33	B
14	46.66	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	100	A
9	30	D	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	100	A
11	36.67	C	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	0	1	1	0	25	83.33	B
10	33.33	C	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	26	86.67	B
9	30	D	1	1	1	0	1	1	1	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	0	1	24	80	B
11	36.67	C	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	26	86.67	B
11	36.67	C	1	1	1	0	1	1	1	0	1	0	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0	23	76.67	B
11	36.67	C	1	1	0	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	0	1	1	1	0	1	1	1	0	1	1	24	80	B
12	40	C	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	29	96.67	B
12	40	C	1	0	1	1	1	0	1	1	1	1	0	1	1	0	0	1	1	1	1	1	1	0	1	1	1	1	0	1	1	0	22	73.33	B
10	33.33	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	100	A
8	26.66	D	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	28	93.33	B
7	23.33	D	1	1	0	1	0	1	1	0	1	1	0	1	1	1	0	1	1	1	0	1	0	1	1	0	1	1	0	1	0	0	19	63.33	C
9	30	D	1	0	1	0	1	0	0	1	1	0	1	0	1	1	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	16	53.33	C
10	33.33	C	1	1	1	1	0	1	1	1	0	0	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	24	80	B
11	36.67	C	1	1	1	0	1	1	1	1	0	1	0	1	0	1	1	1	1	0	1	0	1	1	1	0	1	1	0	1	0	1	21	70	B
15	50	C	1	1	0	1	1	1	1	1	1	0	0	1	1	0	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0	23	76.66	B
10	33.33	C	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	28	93.33	B
11	36.67	C	1	1	1	1	0	1	1	0	1	0	1	1	0	1	1	1	0	1	1	1	1	1	1	0	1	1	1	0	1	1	23	76.66	B
9	30	D	1	1	1	1	0	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	25	83.33	B
12	40	C	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	26	86.66	B
15	50	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	100	A
11	36.67	C	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	27	90	B
11	33.33	C	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	26	86.66	B
16	53.33	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	100	A
6	20	D	1	1	1	0	1	1	1	0	1	1	1	0	1	1	0	1	1	1	0	1	1	0	1	1	1	1	1	1	1	0	24	80	B
13	43.33	C	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0	25	83.33	B
12	40	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	29	96.66	B
14	46.66	C	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	26	86.66	B
13	43.33	C	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	28	93.33	B
11	36.67	C	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	0	1	0	0	24	80	B
11	36.67	C	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	27	67.5	B
9	30	D	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	100	A
8	26.66	D	1	1	1	1	0	1	1	0	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	0	1	1	23	76.66	B
11	36.67	C	1	0	1	1	1	0	1	0	1	0	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	1	22	73.33	B
14	46.66	C	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	26	86.66	B
13	43.33	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	100	A
10	33.33	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	0	1	1	27	90	B

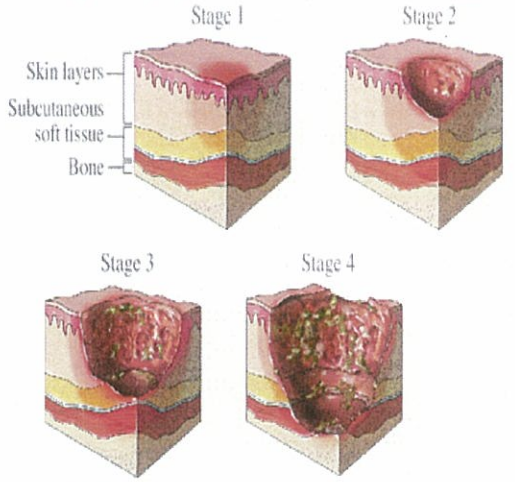
4	13.33	D	1	1	0	1	0	1	0	0	1	1	0	1	0	1	1	1	0	1	0	1	0	1	1	1	0	1	1	1	1	0	19	63.33	C
9	30	D	1	1	1	0	1	1	0	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	0	23	76.66	B
10	33.33	C	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	28	93.33	B
8	26.66	D	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	26	86.66	B
15	50	C	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	0	1	1	1	1	1	1	26	86.66	B
7	23.33	D	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	0	0	1	1	1	1	1	0	1	1	1	0	0	1	1	23	76.66	B
14	46.66	C	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	25	83.33	B
12	40	C	1	0	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	25	83.33	B
11	33.33	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	100	A
9	30	D	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	0	1	1	0	24	80	B
12	40	C	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	26	86.66	B
8	26.66	D	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	26	86.66	B
6	20	D	1	1	1	1	1	1	0	1	1	1	0	1	1	0	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0	1	24	80	B
12	40	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	100	A
13	43.33	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	29	96.66	B
12	40	C	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	0	1	1	0	1	1	0	23	76.66	B
12	40	C	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	26	86.66	B
16	53.33	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30	100	A

PRESSURE SORES AND ITS PREVENTION



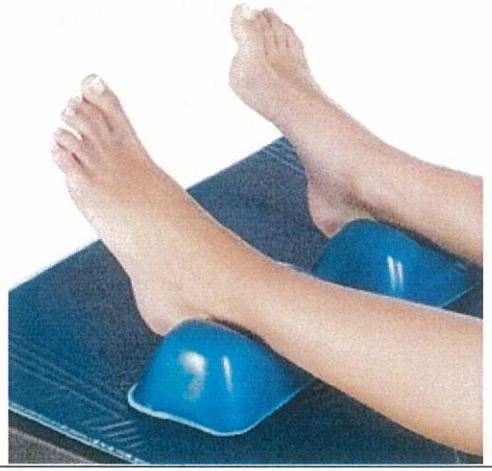
LAYERS OF SKIN

IMMOBILIZATION



STAGES OF PRESSURE SORE

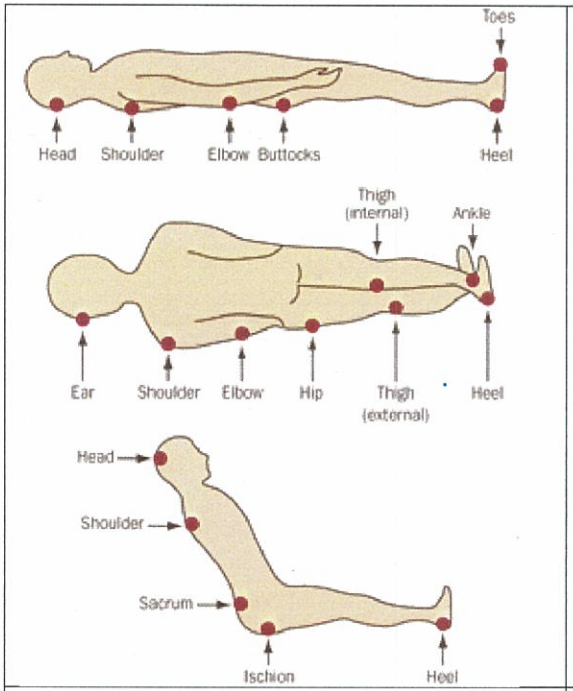
PRESSURE SORE - SEVERE



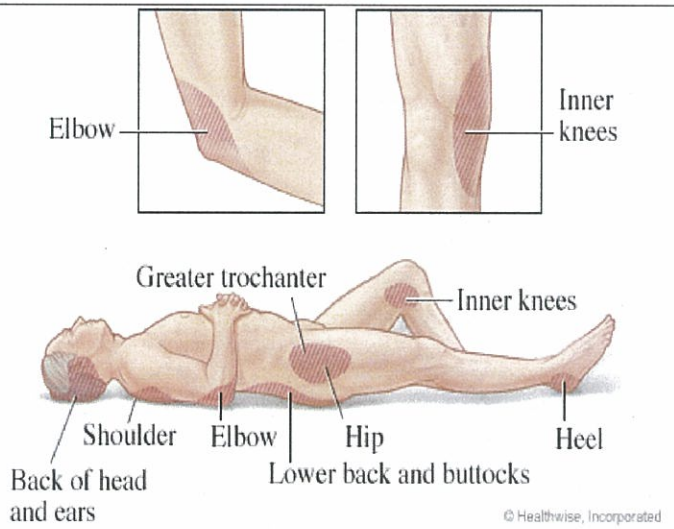
DON'T DO

HEAL PROTECTOR

PRESSURE SORES AND ITS PREVENTION



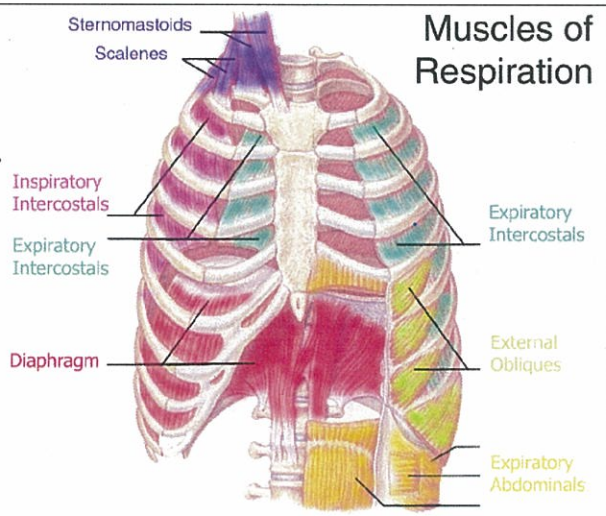
FREQUENTLY CHANGE POSITION



PRESSURE ULCER POINTS

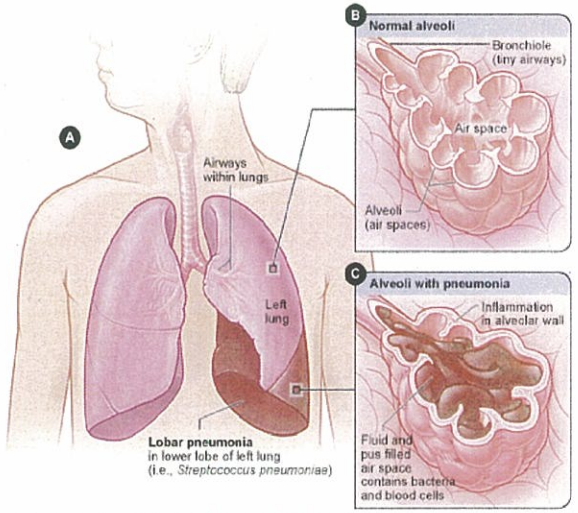
PRESSURE REDISTRIBUTION BED

HYPOSTATIC PNEUMONIA AND ITS PREVENTION

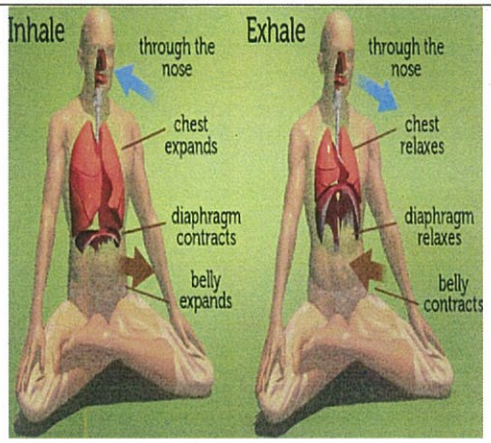


MUSCLES OF RESPIRATION

IMMOBILIZATION

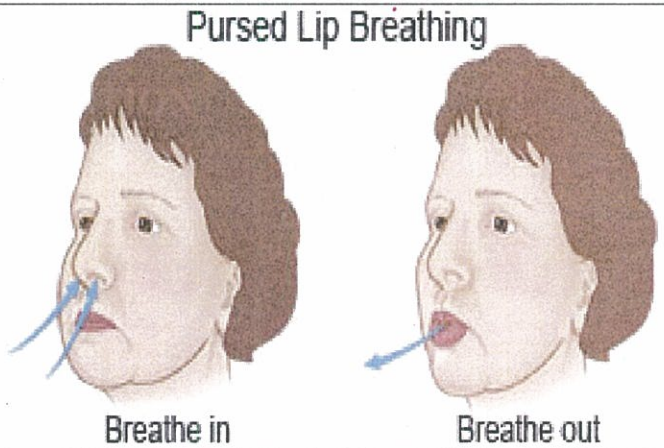


LUNG WITH PNEUMONIA



PHYSIOLOGY OF RESPIRATION

DIAPHRAGMATIC BREATHING



PURSED LIP BREATHING

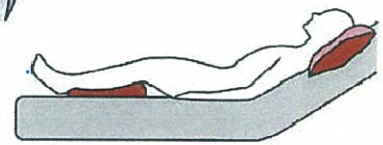
CONSTIPATION AND ITS PREVENTION

		
PROLONGED IMMOBILIZATION	**CONSTIPATION**	**DRINK MORE WATER**
		
EAT MORE FRUITS AND VEGETABLES	**USE SUITABLE BAD PAN**	**MAINTAIN CORRECT POSITION WHILE USING BED PAN**

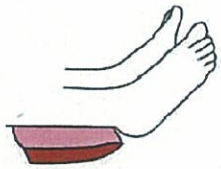
Pressure Ulcer Prevention Guide

Positioning

Proper position when lying on side



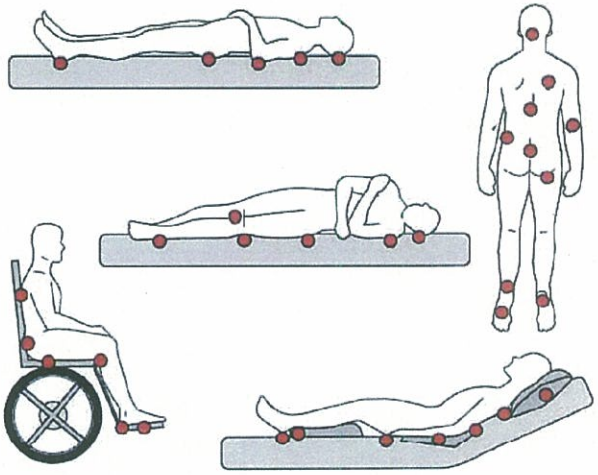
Head of bed raised 30 degrees or less



Proper heel placement

Pressure Points

Red circles are pressure points that need extra protection



Positioning Tips

- Follow a written turning/positioning schedule
- Reposition every two hours, or more often if needed
- Use pressure reduction devices on beds and chairs, and under heels
- Use lift sheet or device to reduce shear and friction

Daily Care Tips

- Look at the skin every day and report red areas
- Keep the skin dry
- Help the person eat well and drink fluids

K.Jeya Chandra
M.Sc (N) II Year student,
Madras Medical College,
Chennai-03.